SounPacific
Environmental Services
(707) 269-0884

QUARTERLY GROUNDWATER MONITORING REPORT

Second Quarter 2005 (Twelfth Quarterly)

Sampled on June 22, 2005

Job # SP-160

LOP # 12341

Big Oil & Tire - McKinleyville BP (McKinleyville 76)
2698 Central Avenue
McKinleyville, California 95519

August 25, 2005

This *Quarterly Groundwater Monitoring Report* was prepared by SounPacific Environmental Services (SounPacific) staff for Big Oil and Tire Co. (BO&T), using previous studies that were conducted by Clearwater Group, Inc. (CGI), SounPacific, and file review conducted at Humboldt County Department of Health and Human Services: Division of Environmental Health (HCDEH). The station is located at 2698 Central Avenue in McKinleyville, California (Figure 1).

SITE DESCRIPTION

The station is positioned on the northwest corner at the intersection of Central Avenue and Reasor Road (Figure 1), approximately 1.5 miles north of downtown McKinleyville. Site improvements include a single story building and two dispensers. The structure is approximately 800 square feet in size and is positioned near the western property line facing east towards Central Avenue. The site is surfaced around the current structure with concrete and asphalt. There is currently one (1) 15,000-gallon split compartment UST containing regular unleaded gasoline and premium unleaded gasoline, positioned approximately 17 feet from the southern property line. A mixer located at the

dispensers creates mid-grade gasoline. Sewer and water services are supplied by public utilities. Drainage ditches and municipal storm sewers control surface water runoff. All electrical and telephone lines are above ground (Figure 2).

SITE TOPOGRAPHY AND LAND USE

Site topography is relatively flat. The site elevation is approximately 114 feet above mean sea level (amsl). Regional topography consists of rolling terrain that gently slopes to the west toward the Pacific Ocean (Figure 1). The site is located approximately 1.5 miles east of the Pacific Ocean. According to USGS maps, the site is located approximately 1,000 feet south of Norton Creek and 1,000 feet north of Widow White Creek.

This site is located on the uplifted Savage Creek Marine Terrace, which dates at roughly 83,000 years before present. The Savage Creek Marine Terrace deposits consist mainly of sand, with minor amounts of silt, clay, and gravel. These sediments were deposited on wave-cut benches that have since become exposed through tectonic uplift and changes in sea level. These marine terrace deposits are typically up to a few tens of feet thick and are late Pleistocene in age (Carver and Burke, 1992).

SounPacific understands that the property is owned by BO&T of Arcata, California. The main structure is used as a retail gas station for the retail dispensing of three (3) grades of unleaded gasoline from the USTs on site. A mini-mart that is combined with a cashiers' office is located inside the main structure.

The surrounding land use in the immediate vicinity is a mixture of commercial and residential. Properties to the immediate north and south of the site are commercial with residential properties located to the east and west of the site. This site is bordered on the south by Reasor Road and to the east by Central Avenue. An apartment complex is located adjacent to the west of the property.

RESULTS OF QUARTERLY SAMPLING

Under approval of HCDEH, SounPacific is continuing with quarterly groundwater monitoring until further notice. Quarterly water level data is used to input into a three-point gradient problem to generate a two-dimensional groundwater elevation contour diagram and calculate groundwater flow direction. Quarterly sampling events will monitor the fluctuation of hydrocarbon contamination levels present beneath the site. Monitoring wells were gauged and sampled on June 22, 2005.

FIELD DATA

Wells gauged: MW-1, 2, 3, 4, and 6

Groundwater: Ranged from 111.33 to 111.56 feet above mean sea level (Table 1)

Floating product: Sheen detected in monitoring wells MW-3, MW-4, and MW-6.

GW flow direction: Southwest (Figure 3)

GW Gradient: 0.002 feet per foot (Figure 3)

On June 22, 2005, the depth to groundwater in the site's five monitoring wells ranged from 2.25 feet below top of casing (btoc) in well MW-2 to 3.70 feet btoc in well MW-4. When corrected to mean sea-level, water level elevations ranged from 111.33 feet above mean sea-level (amsl) in well MW-1 to 111.56 feet amsl in wells MW-2 and MW-3. Groundwater levels for the June 22, 2005, monitoring event, along with historical level and elevations are included in Table 1. Groundwater flow was determined to be very flat, with a gradient towards the southwest at 0.002 feet per foot. The groundwater flow and gradient are graphically depicted in Figure 3. Prior to sampling, all wells were purged; the groundwater field parameters for each well are presented below.

MONITORING WELL MW-1 GROUNDWATER FIELD PARAMETERS

Time	Total Vol. Removed/ gal	pH	Temp./ F	Cond./ ms(cm)$^{-1}$
10:57	0	7.00	65.71	0.531
11:00	1.54	6.97	61.91	0.480
11:03	3.08	6.92	61.96	0.496
11:08	4.67	6.90	62.25	0.518

MONITORING WELL MW-2 GROUNDWATER FIELD PARAMETERS

Time	Total Vol. Removed/ gal	pH	Temp./ F	Cond./ ms(cm)$^{-1}$
11:19	0	7.39	66.55	0.211
11:27	1.73	7.20	61.05	0.182
11:32	3.46	7.11	60.80	0.166
11:36	5.19	7.07	61.02	0.174

MONITORING WELL MW-3 GROUNDWATER FIELD PARAMETERS

Time	Total Vol. Removed/ gal	pH	Temp./ F	Cond./ ms(cm)$^{-1}$
11:48	0	6.82	63.12	0.534
11:52	1.28	6.81	61.39	0.524
11:57	2.56	6.81	61.09	0.524
12:01	3.84	6.82	61.09	0.526

MONITORING WELL MW-4 GROUNDWATER FIELD PARAMETERS

Time	Total Vol. Removed/ gal	pH	Temp./ F	Cond./ ms(cm)$^{-1}$
12:17	0	6.65	62.99	0.165
12:28	1.36	6.41	58.79	0.183
12:32	2.72	6.33	58.75	0.185
12:37	4.08	6.27	58.90	0.187

MONITORING WELL MW-6 GROUNDWATER FIELD PARAMETERS

Time	Total Vol. Removed/ gal	pH	Temp./ F	Cond./ ms(cm)$^{-1}$
12:51	0	6.22	63.41	0.176
12:55	1.42	6.38	60.49	0.255
1:01	2.84	6.40	60.68	0.317
1:06	4.26	6.41	60.08	0.433

ANALYTICAL RESULTS

Sampling locations: MW-1, 2, 3, 4, and 6

Analyses performed: TPHg, BTXE, MTBE, DIPE, TAME, ETBE, TBA, TPHd, TPHmo

Laboratories used: Basic Laboratory, Inc., Redding, California (Cert No. 1677)

The analytical results for the current monitoring event are presented on the next page and graphically depicted in Figure 4. The laboratory report is included as Appendix A. The historical analytical results for all monitoring wells, since the implementation of groundwater monitoring are included as Table 2.

	MW-1 (ppb)	MW-2 (ppb)	MW-3 (ppb)	MW-4 (ppb)	MW-6 (ppb)
TPHg:	**11,000**	**518**	**4,800**	ND < 50	**4,250**
Benzene:	ND < 50	**32.8**	**280**	ND < 0.5	**914**
Ethylbenzene:	ND < 50	ND < 0.5	**142**	ND < 0.5	ND < 10
Toluene:	ND < 50	**0.8**	**25.1**	ND < 0.5	ND < 10
Xylenes:	ND < 100	**1.7**	**15.6**	ND < 1.0	ND < 20
MTBE:	**15,700**	**129**	**489**	ND < 1.0	**3,460**
DIPE:	ND < 50	ND < 0.5	ND < 2.5	ND < 0.5	ND < 10
TAME:	ND < 50	**5.3**	**48.7**	ND < 0.5	**119**
ETBE:	ND < 50	ND < 0.5	ND < 2.5	ND < 0.5	ND < 10
TBA:	ND < 5,000	ND < 50	**301**	ND < 50.0	ND < 1,000
TPHd:	**159**	**85**	**5,700**	ND < 50	**100**
TPHmo:	**189**	ND < 50	**336**	**85**	**110**

DOMESTIC WELL SAMPLING

In the SounPacific's *Well Survey Report*, dated December, 13, 2004, a recommendation was made to procure groundwater samples from the domestic wells on four separate properties in the vicinity of the site. These properties are located at 1520 Murray Road (APN # 510-091-058); 2620 Central Avenue (APN # 510-101-014); 1625 Reasor Road (APN # 510-071-006); and 2620 Wanda Lane (APN # 510-101-035). SounPacific was unable to contact the owners of two of these properties (2620 Central Avenue and 1625 Reasor Road) and hence were unable to get access to those wells. SounPacific did sample the wells on the remaining properties (1520 Murray Road and 2620 Wanda Lane) on April 1, 2005 and April 29, 2005 respectively (Figure 5). The collected samples were analyzed for TPHg, BTXE, five fuel-oxygenates, TPHd, and TPHmo (Table 3). Laboratory analysis of these samples did not report any constituents above the laboratory detection limits. SounPacific is currently in the process of communicating all analytical results to all the land owners.

COMMENTS AND RECOMMENDATIONS

On June 22, 2005, the 12th groundwater monitoring event for the five on-site monitoring wells was conducted at the McKinleyville 76 at 2698 Central Avenue in McKinleyville, California. A summary of the results are presented below.

- The depth to groundwater in the five on-site wells ranged between 2.25 feet bgs to 3.70 feet bgs. Groundwater flow was towards the southwest at a gradient of 0.002 feet per foot.

- Groundwater samples from the five on-site wells were collected and analyzed for TPHg, BTXE, five fuel-oxygenates, TPHd, and TPHmo. Laboratory results reported TPHg in four wells at concentrations that ranged from 518 ppb (MW-2) to 11,000 ppb (MW-1). Benzene was reported in three wells at concentrations that ranged from 32.8 ppb (MW-2) to 914 ppb (MW-6). Toluene was reported in two wells at concentrations of 0.8 ppb (MW-2) and 25.1 (MW-3). Xylenes were also reported in two wells at concentrations of 1.7 ppb (MW-2) and 15.6 ppb (MW-3). Ethylbenzene was reported in one well at a concentration of 142 ppb (MW-3). MTBE was reported in all wells except MW-4, at concentrations that ranged from 129 ppb (MW-2) to 15,700 ppb (MW-1). TAME was reported in three wells at concentrations that ranged from 5.3 ppb (MW-2) to 119 ppb (MW-6). TBA was reported in MW-3 at a concentration of 301 ppb. TPHd was reported in four wells at concentrations that ranged from 85 ppb (MW-2) to 5,700 (MW-3). TPHmo was reported in all wells except MW-2, at concentrations that ranged from 85 ppb (MW-4) to 336 ppb (MW-3).

- Two of the four domestic wells in the vicinity of the site that had been identified during a recent well survey, were sampled. Laboratory analysis of the samples did not report any petroleum hydrocarbon concentrations above reporting limits. Access to the other two wells could not be obtained.

Based upon these results the following observations and conclusions have been made.

- TPHg has been reported consistently in all wells except MW-4, for nearly all the sampling events thus far. Concentrations are very high and fluctuating with levels ranging from 10^3 to10^4 ppb in MW-1, MW-3, and MW-6 (Figures 6, 7, 8, and 10).

- BTXE has been reported consistently in all wells except MW-1 and MW-4, for nearly all the sampling events thus far. BTXE has been reported in MW-1 with less consistency. Concentrations are high and fluctuating with benzene being the most frequently reported constituent. Benzene concentrations appear to be decreasing in well MW-3 (Figures 6, 7, 8, and 10).

- MTBE has been reported in all wells except MW-2 and MW-4 at concentrations ranging from 10^2 to 10^5 ppb during every sampling event since the inception of the monitoring program. MTBE was reported in well MW-2 during all but one sampling event at varying concentrations. MTBE was reported in MW-4 at concentrations less than 5 ppb until the 2^{nd} Quarter 2003 sampling event (Figures 6, 7, 8, 9, and 10).

- DIPE and ETBE have never been reported in any well since the inception of the monitoring program.

- TAME was reported in well MW-3 at decreasing concentrations during every sampling event thus far. TAME was reported in MW-1 and MW-6 during different sampling events at varying concentrations. TAME has not been reported in MW-4 since the 1^{st} Quarter 2003 sampling event. TAME had not been reported in MW-2 at all until low concentrations (< 6 ppb) were detected during the last two monitoring events.

- TBA has been reported infrequently in wells MW-1, MW-3, and MW-6. TBA has not been reported in well MW-2 and MW-4.

- TPHd has been reported during most sampling events at high and fluctuating concentrations in all wells except MW-4, in which TPHd has only appeared three times since the inception of the monitoring events. Overall, TPHd concentrations in wells MW-1 and MW-4 appear to be decreasing (Figures 6, 7, 8, 9, and 10).

- TPHmo has been reported in all wells, except MW-5, at various times since the inception of the monitoring, usually only when reporting levels are below 500 ppb.

Based on the results of the June 2005 monitoring event and historical results, the following future activities are proposed.

- Groundwater monitoring will be continued until further notice. Groundwater level measurements will be collected from the five on-site monitoring wells to determine groundwater flow direction and gradient. Collected groundwater samples will be analyzed for TPHg, BTXE, five-fuel oxygenates, TPHd, and TPHmo.

- The *Subsurface Investigation Workplan Addendum #2* for delineating the down gradient MTBE plume as requested in a letter dated July 10, 2003, by HCDEH is currently being prepared.

- SounPacific proposes that the *Corrective Action Plan* (CAP), as requested by HCDEH in their letter of July 10, 2005, should be prepared following the completion of the site delineation. Intermediate corrective action has already been conducted with the excavations and removal of the contaminated soil at the site. Development of a formal CAP will be prepared once the extent of the offsite plume has been identified.

CERTIFICATION

This report was prepared under the direct supervision of a California registered geologist at SounPacific. All information provided in this report including statements, conclusions and recommendations are based solely upon field observations and analyses performed by a state-certified laboratory. SounPacific is not responsible for laboratory errors.

SounPacific promises to perform all its work in a manner that is currently used by members in similar professions working in the same geographic area. SounPacific will do whatever is reasonable to ensure that data collection is accurate. Please note however, that rain, buried utilities, and other factors can influence groundwater depths, directions and other factors beyond what SounPacific could reasonably determine.

SounPacific

Prepared by:

Greg Sounhein, REA # 07994

Project Manager

Reviewed by:

Michael Sellens, RG # 4714, REA # 07890

Principal Geologist

ATTACHMENTS

TABLES & CHARTS

FIGURES

APPENDICES

Tables & Chart

Table 1
Water Levels
McKinleyville 76
2698 Central Avenue
McKinleyville, California 95519

Sample Location	Date	Depth to Bottom/ Feet BGS	Survey Height/ Feet Above MSL	Depth to Water/ Feet BGS	Adjusted Elevation/ Feet Above MSL
MW-1	6/25/2002	12.52	114.23	5.39	108.84
	7/25/2002	12.51	114.23	6.21	108.02
	8/14/2002	12.51	114.23	6.56	107.67
	9/16/2002	12.49	114.23	6.92	107.31
	10/21/2002	12.53	114.23	7.26	106.97
	11/21/2002	11.26	114.23	6.54	107.69
	12/21/2002	12.48	114.23	2.01	112.22
	1/22/2003	11.54	114.23	2.88	111.35
	2/26/2003	12.51	114.23	2.90	111.33
	3/28/2003	12.51	114.23	2.28	111.95
	4/28/2003	12.51	114.23	1.70	112.53
	5/28/2003	12.51	114.23	3.99	110.24
	6/27/2003	12.63	114.23	5.10	109.13
	9/25/2003	12.63	114.23	6.59	107.64
	12/29/2003	12.63	114.23	1.22	113.01
	3/30/2004	12.63	114.23	2.80	111.43
	6/28/2004	12.60	114.23	5.68	108.55
	9/30/2004	12.60	114.23	7.06	107.17
	12/20/2004	12.55	114.23	3.41	110.82
	4/5/2005	12.55	114.23	2.23	112.00
	6/22/2005	12.51	114.23	2.90	111.33
MW-2	6/25/2002	13.41	113.81	4.75	109.06
	7/25/2002	13.43	113.81	5.62	108.19
	8/14/2002	13.42	113.81	6.02	107.79
	9/16/2002	13.42	113.81	6.38	107.43
	10/21/2002	13.39	113.81	6.71	107.10
	11/21/2002	12.54	113.81	6.08	107.73
	12/21/2002	13.49	113.81	1.42	112.39
	1/22/2003	12.71	113.81	2.50	111.31
	2/26/2003	13.24	113.81	2.35	111.46
	3/28/2003	13.24	113.81	1.76	112.05
	4/28/2003	13.24	113.81	1.27	112.54
	5/28/2003	13.24	113.81	3.44	110.37
	6/27/2003	13.57	113.81	4.50	109.31
	9/25/2003	13.57	113.81	6.02	107.79
	12/29/2003	NT	113.81	NT	NT
	3/30/2004	13.57	113.81	2.09	111.72
	6/28/2004	13.37	113.81	5.06	108.75
	9/30/2004	13.20	113.81	6.49	107.32
	12/20/2004	13.15	113.81	2.61	111.20
	4/5/2005	12.97	113.81	1.64	112.17
	6/22/2005	13.05	113.81	2.25	111.56

Table 1 (cont.)
Water Levels
McKinleyville 76
2698 Central Avenue
McKinleyville, California 95519

Sample Location	Date	Depth to Bottom/ Feet BGS	Survey Height/ Feet Above MSL	Depth to Water/ Feet BGS	Adjusted Elevation/ Feet Above MSL
MW-3	6/25/2002	11.28	114.78	5.81	108.97
	7/25/2002	13.22	114.78	7.64	107.14
	8/14/2002	13.24	114.78	7.48	107.30
	9/16/2002	13.26	114.78	7.39	107.39
	10/21/2002	11.24	114.78	7.76	107.02
	11/21/2002	13.31	114.78	5.45	109.33
	12/21/2002	11.18	114.78	2.33	112.45
	1/22/2003	13.52	114.78	1.95	112.83
	2/26/2003	11.31	114.78	3.27	111.51
	3/28/2003	11.31	114.78	2.59	112.19
	4/28/2003	11.31	114.78	2.05	112.73
	5/28/2003	11.31	114.78	4.42	110.36
	6/27/2003	11.33	114.78	5.51	109.27
	9/25/2003	11.33	114.78	7.03	107.75
	12/29/2003	11.33	114.78	1.50	113.28
	3/30/2004	11.33	114.78	3.18	111.60
	6/28/2004	11.30	114.78	6.09	108.69
	9/30/2004	11.25	114.78	7.55	107.23
	12/20/2004	11.26	114.78	3.56	111.22
	4/5/2005	11.21	114.78	2.54	112.24
	6/22/2005	11.21	114.78	3.22	111.56
MW-4	6/25/2002	12.34	115.18	6.31	108.87
	7/25/2002	12.32	115.18	7.10	108.08
	8/14/2002	12.32	115.18	7.52	107.66
	9/16/2002	12.31	115.18	7.85	107.33
	10/21/2002	12.31	115.18	8.21	106.97
	11/21/2002	12.32	115.18	7.05	108.13
	12/21/2002	12.22	115.18	2.69	112.49
	1/22/2003	12.57	115.18	3.27	111.91
	2/26/2003	12.29	115.18	3.71	111.47
	3/28/2003	12.29	115.18	3.02	112.16
	4/28/2003	12.29	115.18	2.41	112.77
	5/28/2003	12.29	115.18	4.88	110.30
	6/27/2003	12.38	115.18	5.99	109.19
	9/25/2003	12.38	115.18	7.50	107.68
	12/29/2003	12.38	115.18	1.78	113.40
	3/30/2004	12.38	115.18	3.60	111.58
	6/28/2004	12.33	115.18	6.59	108.59
	9/30/2004	12.25	115.18	8.00	107.18
	12/20/2004	12.23	115.18	4.24	110.94
	4/5/2005	12.20	115.18	2.95	112.23
	6/22/2005	12.20	115.18	3.70	111.48

Table 1 (cont.)
Water Levels
McKinleyville 76
2698 Central Avenue
McKinleyville, California 95519

Sample Location	Date	Depth to Bottom/ Feet BGS	Survey Height/ Feet Above MSL	Depth to Water/ Feet BGS	Adjusted Elevation/ Feet Above MSL
MW-5	6/25/2002	12.42	114.47	5.48	108.99
	7/25/2002	12.39	114.47	6.35	108.12
	8/14/2002	12.39	114.47	7.12	107.35
	9/16/2002	12.40	114.47	7.12	107.35
	10/21/2002	12.41	114.47	7.49	106.98
	11/21/2002	12.43	114.47	6.36	108.11
	12/21/2002	12.36	114.47	2.11	112.36
	1/22/2003	12.41	114.47	2.59	111.88
	2/26/2003	12.45	114.47	3.00	111.47
	3/28/2003	12.45	114.47	2.36	112.11
	4/28/2003	12.45	114.47	1.84	112.63
	5/28/2003	12.45	114.47	4.11	110.36
	6/27/2003	12.57	114.47	5.21	109.26
	9/25/2003	12.57	114.47	6.71	107.76
MW-6	6/25/2002	12.31	114.70	5.86	108.84
	7/25/2002	12.26	114.70	6.65	108.05
	8/14/2002	12.27	114.70	6.97	107.73
	9/16/2002	12.27	114.70	7.40	107.30
	10/21/2002	12.26	114.70	7.74	106.96
	11/21/2002	12.23	114.70	6.58	108.12
	12/21/2002	12.16	114.70	2.39	112.31
	1/22/2003	12.44	114.70	2.87	111.83
	2/26/2003	12.21	114.70	3.29	111.41
	3/28/2003	12.21	114.70	2.68	112.02
	4/28/2003	12.21	114.70	2.07	112.63
	5/28/2003	12.21	114.70	4.45	110.25
	6/27/2003	12.36	114.70	5.56	109.14
	9/25/2003	12.36	114.70	7.05	107.65
	12/29/2003	12.36	114.70	1.54	113.16
	3/30/2004	12.36	114.70	3.22	111.48
	6/28/2004	12.27	114.70	6.13	108.57
	9/30/2004	12.23	114.70	7.54	107.16
	12/20/2004	12.21	114.70	3.86	110.84
	4/5/2005	12.19	114.70	2.62	112.08
	6/22/2005	12.20	114.70	3.33	111.37

Table 2
Quarterly Groundwater Analytical Results
McKinleyville 76
2698 Central Avenue
McKinleyville, California 95519

Sample Location	Sample Event	Annual Quarter	Sample Date	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Xylenes (ppb)	Ethylbenzene (ppb)	MTBE (ppb)	DIPE (ppb)	TAME (ppb)	ETBE (ppb)	TBA (ppb)	Methanol (ppb)	Ethanol (ppb)	TPHd (ppb)	TPHmo (ppb)
MW-1	Well Installation	Second Quarter	6/25/2002	23,000	230	ND < 0.3	1.4	0.7	45,400	ND < 0.5	58	ND < 0.5	ND < 100	----	----	676	600
	First Quarterly	Third Quarter	9/16/2002	30,600	89.4	ND < 0.3	1.3	1.3	130,000	ND < 0.5	43.4	ND < 0.5	ND < 100	----	----	722	ND < 50
	Second Quarterly	Fourth Quarter	12/21/2002	ND < 50	ND < 50	ND < 50	ND < 100	ND < 50	7,600	ND < 50	ND < 50	ND < 50	ND < 500	----	----	ND < 50	ND < 500
	Third Quarterly	First Quarter	3/28/2003	4,200	1,200	ND < 50	ND < 100	ND < 50	33,000	ND < 50	ND < 50	ND < 50	ND < 500	ND < 5.0	ND < 1,300	440	ND < 500
	Fourth Quarterly	Second Quarter	6/27/2003	37,000	4,000	ND < 500	ND < 1,000	ND < 500	81,000	ND < 500	ND < 500	ND < 500	ND < 5,000	ND < 5.0	ND < 13,000	120	ND < 500
	Fifth Quarterly	Third Quarter	9/25/2003	ND < 40,000	23,000	ND < 500	ND < 1,000	ND < 500	72,000	ND < 500	ND < 500	ND < 500	ND < 5,000	ND < 5.0	ND < 20,000	900	ND < 500
	Sixth Quarterly	Fourth Quarter	12/29/2003	2,800	ND < 500	ND < 500	ND < 1,000	ND < 500	31,000	ND < 500	ND < 500	ND < 500	ND < 5,000	ND < 5.0	ND < 20,000	120	ND < 500
	Seventh Quarterly	First Quarter	3/30/2004	29,000	ND < 50	ND < 50	ND < 100	ND < 50	65,000	ND < 50	150	ND < 50	23,000	----	----	750	ND < 500
	Eighth Quarterly	Second Quarter	6/28/2004	44,000	2,100	ND < 50	ND < 100	ND < 50	100,000	ND < 50	130	ND < 50	ND < 500	----	----	870	ND < 500
	Ninth Quarterly	Third Quarter	9/30/2004	24,000	670	ND < 50	ND < 150	ND < 50	50,000	ND < 50	61	ND < 50	ND < 500	----	----	370	ND < 500
	Tenth Quarterly	Fourth Quarter	12/20/2004	ND < 2,000	ND < 20.0	ND < 20.0	ND < 40.0	ND < 20.0	2,080	ND < 20.0	ND < 200	ND < 200	ND < 2,000	----	----	103	122
	Eleventh Quarterly	First Quarter	4/5/2005	6,810	ND < 12.5	ND < 12.5	ND < 25.0	ND < 12.5	8,110	ND < 12.5	31.8	ND < 12.5	ND < 1,250	----	----	74	106
	Twelveth Quarterly	Second Quarter	6/22/2005	11,000	ND < 50	ND < 50	ND < 100	ND < 50	15,700	ND < 50	ND < 50	ND < 50	ND < 5,000	----	----	159	189
MW-2	Well Installation	Second Quarter	6/25/2002	4,650	255	108	1,010	289	108	ND < 0.5	ND < 0.5	ND < 0.5	ND < 100	----	----	883	596
	First Quarterly	Third Quarter	9/16/2002	886	91.4	23.5	162	15.4	17.1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 100	----	----	382	ND < 50
	Second Quarterly	Fourth Quarter	12/21/2002	220	12	3.6	11.3	0.6	ND < 0.5	ND < 50	ND < 0.5	ND < 0.5	ND < 5.0	----	----	85	ND < 500
	Third Quarterly	First Quarter	3/28/2003	92	12	1.1	1.2	ND < 0.5	4.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 5.0	ND < 13	ND < 50	ND < 500
	Fourth Quarterly	Second Quarter	6/27/2003	1,700	190	36	189.7	100	16	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 5.0	ND < 13	330	ND < 500
	Fifth Quarterly	Third Quarter	9/25/2003	850	46	ND < 5.0	12	ND < 5.0	10	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50	ND < 5.0	ND < 200	320	ND < 500
	Sixth Quarterly	Fourth Quarter	12/29/2003	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	Seventh Quarterly	First Quarter	3/30/2004	140	14	0.5	0.8	ND < 0.5	12	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	----	----	110	ND < 500
	Eighth Quarterly	Second Quarter	6/28/2004	2,900	100	22	252	52	71	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	----	----	750	ND < 500
	Ninth Quarterly	Third Quarter	9/30/2004	790	29	ND < 5.0	25	ND < 5.0	26	ND < 5	ND < 5	ND < 5	ND < 50	----	----	170	ND < 500
	Tenth Quarterly	Fourth Quarter	12/20/2004	2,990	91.4	89.1	394	178	615	ND < 4.0	ND < 40.0	ND < 40.0	ND < 400	----	----	642	ND < 50
	Eleventh Quarterly	First Quarter	4/5/2005	337	7.7	ND < 0.5	ND < 1.0	ND < 0.5	27.6	ND < 0.5	1.2	ND < 0.5	ND < 50	----	----	ND < 50	55
	Twelveth Quarterly	Second Quarter	6/22/2005	518	32.8	0.8	1.7	ND < 0.5	129	ND < 0.5	5.3	ND < 0.5	ND < 50	----	----	85	ND < 50
MW-3	Well Installation	Second Quarter	6/25/2002	11,600	1,530	84.6	126	520	7,320	ND < 0.5	720	ND < 0.5	ND < 100	----	----	2,420	597
	First Quarterly	Third Quarter	9/16/2002	9,210	1,140	93.4	77	405	5,160	ND < 0.5	578	ND < 0.5	ND < 100	----	----	3500	ND < 50
	Second Quarterly	Fourth Quarter	12/21/2002	24,000	1,200	180	1,337	960	12,000	ND < 50	750	ND < 50	ND < 500	----	----	1300	ND < 500
	Third Quarterly	First Quarter	3/28/2003	7,800	860	ND < 50	ND < 100	88	6,100	ND < 50	410	ND < 50	ND < 500	ND < 5.0	ND < 1,300	4,000	ND < 500
	Fourth Quarterly	Second Quarter	6/27/2003	12,000	750	ND < 50	ND < 100	190	3,100	ND < 50	190	ND < 50	ND < 500	ND < 5.0	ND < 1,300	5,100	ND < 500
	Fifth Quarterly	Third Quarter	9/25/2003	17,000	1,200	79	54	330	2,100	ND < 50	280	ND < 50	ND < 500	ND < 5.0	ND < 2,000	7,200	ND < 500
	Sixth Quarterly	Fourth Quarter	12/29/2003	17,000	1,700	120	170	1,200	6,000	ND < 50	540	ND < 50	2,700	ND < 5.0	ND < 2,000	ND < 50	ND < 500
	Seventh Quarterly	First Quarter	3/30/2004	15,000	810	43	34	300	1,600	ND < 5.0	200	ND < 5.0	1,500	----	----	7,300	ND < 500
	Eighth Quarterly	Second Quarter	6/28/2004	14,000	720	72	64	370	600	ND < 50	90	ND < 50	ND < 500	----	----	7,000	ND < 500
	Ninth Quarterly	Third Quarter	9/30/2004	9,300	660	62	37	190	790	ND < 0.5	69	ND < 0.5	600	----	----	3,000	ND < 500
	Tenth Quarterly	Fourth Quarter	12/20/2004	7,980	528	64.8	82.8	628	1,280	ND < 10.0	124	ND < 100	ND < 1,000	----	----	5,910	250
	Eleventh Quarterly	First Quarter	4/5/2005	8,190	347	31.8	21.4	201	1,440	ND < 10.0	116	ND < 10	ND < 1,000	----	----	5,860	ND < 150
	Twelveth Quarterly	Second Quarter	6/22/2005	4,800	280	25.1	15.6	142	489	ND < 2.5	48.7	ND < 2.5	301	----	----	5,700	336

Notes:
TPHg: Total petroleum hydrocarbons as gasoline.
MTBE: Methyl tertiary butyl ether
DIPE: Diisopropyl Ether
TAME: Tertiary amyl methyl ether
ETBE: Ethyl tertiary butyl ether
TBA: Tertiary butanol
TPHd: Total petroleum hydrocarbons as diesel
TPHmo: Total petroleum hydrocarbons as motor oil
ppb: parts per billion = µg/l = .001 mg/l = 0.001 ppm.
ND: Not detected at or below the method detection limit as shown.

Table 2 (cont.)
Quarterly Groundwater Analytical Results
McKinleyville 76
2698 Central Avenue
McKinleyville, California 95519

Sample Location	Sample Event	Annual Quarter	Sample Date	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Xylenes (ppb)	Ethylbenzene (ppb)	MTBE (ppb)	DIPE (ppb)	TAME (ppb)	ETBE (ppb)	TBA (ppb)	Methanol (ppb)	Ethanol (ppb)	TPHd (ppb)	TPHmo (ppb)
MW-4	Well Installation	Second Quarter	6/25/2002	ND < 50	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	3.9	ND < 0.5	5.6	ND < 0.5	ND < 100	----	----	199	ND < 50
	First Quarterly	Third Quarter	9/16/2002	ND < 50	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	ND < 2	ND < 0.5	ND < 0.5	ND < 0.5	ND < 100	----	----	ND < 50	ND < 50
	Second Quarterly	Fourth Quarter	12/21/2002	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	4.8	ND < 50	3.8	ND < 0.5	ND < 5.0	----	----	ND < 50	ND < 500
	Third Quarterly	First Quarter	3/28/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	2.8	ND < 0.5	3.9	ND < 0.5	ND < 5.0	ND < 5.0	ND < 0.5	ND < 50	ND < 500
	Fourth Quarterly	Second Quarter	6/27/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	0.7	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 5.0	ND < 13	ND < 50	ND < 500
	Fifth Quarterly	Third Quarter	9/25/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 5.0	ND < 20	ND < 50	ND < 500
	Sixth Quarterly	Fourth Quarter	12/29/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50	ND < 500
	Seventh Quarterly	First Quarter	3/30/2004	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	----	----	97	ND < 500
	Eighth Quarterly	Second Quarter	6/28/2004	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	----	----	ND < 50	ND < 500
	Ninth Quarterly	Third Quarter	9/30/2004	ND < 50	ND < 0.5	ND < 0.5	ND < 1.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	----	----	67	ND < 500
	Tenth Quarterly	Fourth Quarter	12/20/2004	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 5.0	ND < 5.0	ND < 50.0	----	----	ND < 50	52
	Eleventh Quarterly	First Quarter	4/5/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50.0	----	----	ND < 50	86
	Twelveth Quarterly	Second Quarter	6/22/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50.0	----	----	ND < 50	85
MW-5	Well Installation	Second Quarter	6/25/2002	168,000	21,300	22,500	13,900	2,580	571,000	ND < 0.5	689	ND < 0.5	ND < 100	----	----	2,580	ND < 50
	First Quarterly	Third Quarter	9/16/2002	246,000	36,900	37,000	14,100	4,500	540,000	ND < 0.5	2,530	ND < 0.5	----	----	----	10,200	ND < 50
	Second Quarterly	Fourth Quarter	12/21/2002	11,000	120	110	650	120	1,100	ND < 50	ND < 50	ND < 50	ND < 500	----	----	930	ND < 500
	Third Quarterly	First Quarter	3/28/2003	43,000	2,900	2,600	2,500	580	78,000	ND < 50	180	ND < 50	ND < 500	ND < 5.0	ND < 1,300	4,600	ND < 500
	Fourth Quarterly	Second Quarter	6/27/2003	230,000	25,000	27,000	13,300	2,700	280,000	ND < 500	1,500	ND < 500	ND < 5,000	ND < 5.0	ND < 13,000	9,600	ND < 500
	Fifth Quarterly	Third Quarter	9/25/2003	210,000	24,000	24,000	11,400	2,400	320,000	ND < 500	2,500	ND < 500	ND < 5,000	ND < 5.0	ND < 20,000	ND < 50	ND < 500
MW-6	Well Installation	Second Quarter	6/25/2002	11,900	2,370	0.8	5.4	0.8	22,600	ND < 0.5	274	ND < 0.5	ND < 100	----	----	295	ND < 50
	First Quarterly	Third Quarter	9/16/2002	44,700	11,500	1,470	357	802	61,600	ND < 0.5	715	ND < 0.5	ND < 100	----	----	729	ND < 50
	Second Quarterly	Fourth Quarter	12/21/2002	17,000	5,500	ND < 500	ND < 1,000	ND < 500	67,000	ND < 500	ND < 500	ND < 500	ND < 5,000	----	----	440	ND < 500
	Third Quarterly	First Quarter	3/28/2003	270	ND < 500	ND < 500	ND < 1,000	ND < 500	1,200	ND < 500	ND < 500	ND < 500	ND < 5,000	----	----	----	ND < 500
	Fourth Quarterly	Second Quarter	6/27/2003	ND < 50	5.4	0.6	ND < 1	ND < 0.5	80	ND < 0.5	11	ND < 0.5	ND < 5.0	ND < 5.0	ND < 13	ND < 50	ND < 500
	Fifth Quarterly	Third Quarter	9/25/2003	11,000	1,500	ND < 0.5	2.4	ND < 0.5	17,000	ND < 50	280	ND < 50	1,200	ND < 5.0	ND < 200	73	ND < 500
	Sixth Quarterly	Fourth Quarter	12/29/2003	5,100	1,200	ND < 500	ND < 1,000	ND < 500	29,000	ND < 500	ND < 500	ND < 500	ND < 5,000	ND < 5.0	ND < 20,000	ND < 50	ND < 500
	Seventh Quarterly	First Quarter	3/30/2004	1,600	100	ND < 5.0	ND < 10.0	ND < 5.0	1,500	ND < 5.0	36	ND < 5.0	440	----	----	120	ND < 500
	Eighth Quarterly	Second Quarter	6/28/2004	5,700	460	ND < 50	ND < 100	ND < 50	6,000	ND < 50	230	ND < 50	ND < 500	----	----	82	ND < 500
	Ninth Quarterly	Third Quarter	9/30/2004	37,000	4,400	ND < 50	ND < 150	ND < 50	59,000	ND < 50	370	ND < 50	4,600	----	----	450	ND < 500
	Tenth Quarterly	Fourth Quarter	12/20/2004	50,500	4,210	ND < 400	ND < 800	ND < 400	58,100	ND < 400	ND < 4,000	ND < 4,000	ND < 40,000	----	----	488	114
	Eleventh Quarterly	First Quarter	4/5/2005	12,200	842	ND < 40	ND < 80	ND < 40	10,000	ND < 40	123	ND < 40	ND < 4,000	----	----	238	208
	Twelveth Quarterly	Second Quarter	6/22/2005	4,250	914	ND < 10	ND < 20	ND < 10	3,460	ND < 10	119	ND < 10	ND < 1,000	----	----	100	110

Notes:
TPHg: Total petroleum hydrocarbons as gasoline.
MTBE: Methyl tertiary butyl ether
DIPE: Diisopropyl Ether
TAME: Tertiary amyl methyl ether
ETBE: Ethyl tertiary butyl ether
TBA: Tertiary butanol
TPHd: Total petroleum hydrocarbons as diesel
TPHmo: Total petroleum hydrocarbons as motor oil
ppb: parts per billion = µg/l = .001 mg/l = 0.001 ppm.
ND: Not detected at or below the method detection limit as shown.

Table 3
Domestic Well Groundwater Analytical Results
McKinleyville 76
2698 Central Avenue
McKinleyville, California 95519

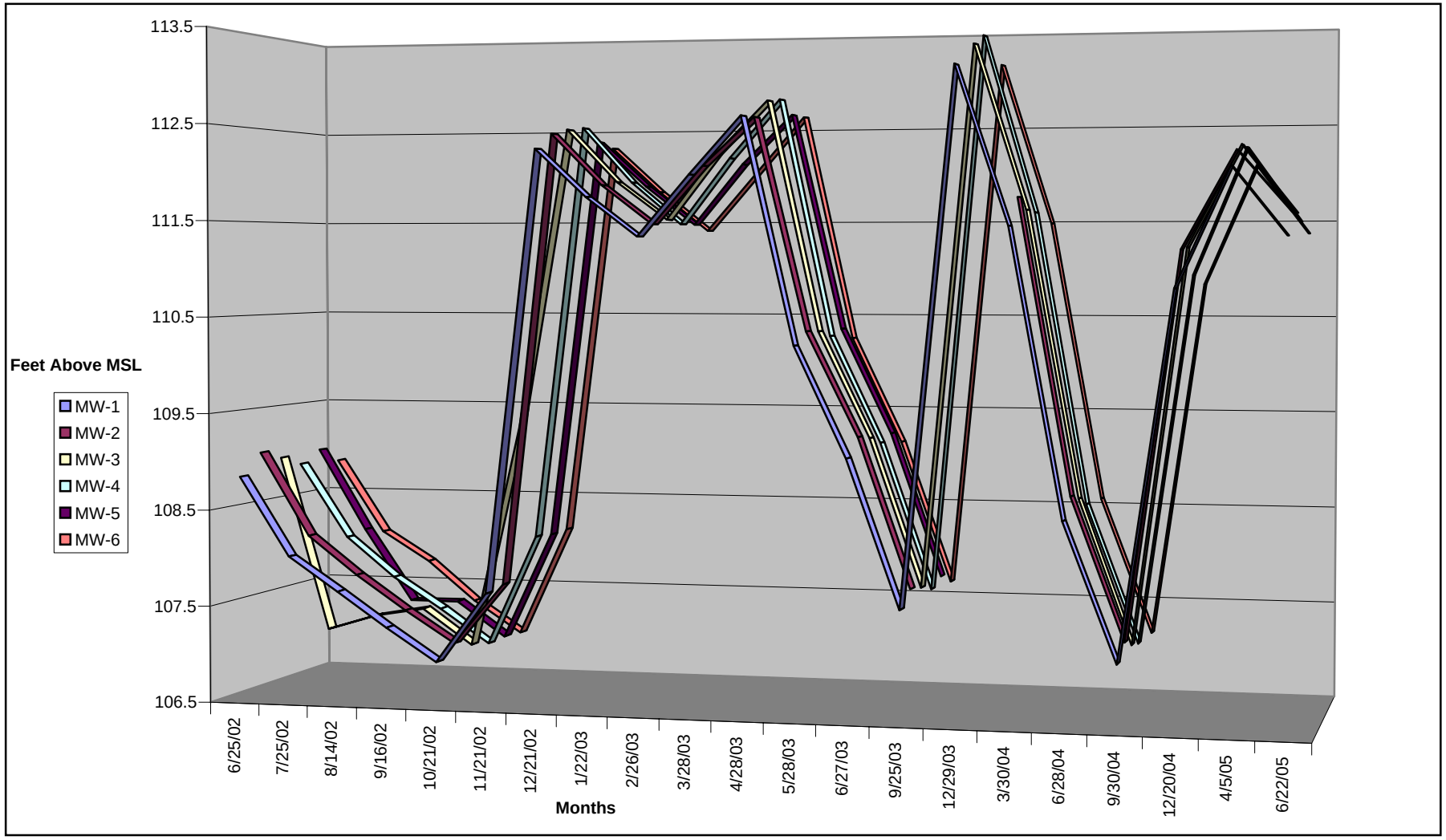
Sample Location	Annual Quarter	Sample Date	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Xylenes (ppb)	Ethylbenzene (ppb)	MTBE (ppb)	DIPE (ppb)	TAME (ppb)	ETBE (ppb)	TBA (ppb)	TPHd (ppb)	TPHmo (ppb)
1520 Murray Road	Second Quarter	4/1/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	ND < 1.0	ND < 10	ND < 50	ND < 170
2620 Wanda Lane	Second Quarter	4/29/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	ND < 1.0	ND < 10	ND < 50	ND < 170

Notes:
TPHg: Total petroleum hydrocarbons as gasoline.
MTBE: Methyl tertiary butyl ether
DIPE: Diisopropyl Ether
TAME: Tertiary amyl methyl ether
ETBE: Ethyl tertiary butyl ether
TBA: Tertiary butanol
TPHd: Total petroleum hydrocarbons as diesel
TPHmo: Total petroleum hydrocarbons as motor oil
ppb: parts per billion = µg/l = .001 mg/l = 0.001 ppm.
ND: Not detected at or below the method detection limit as shown.

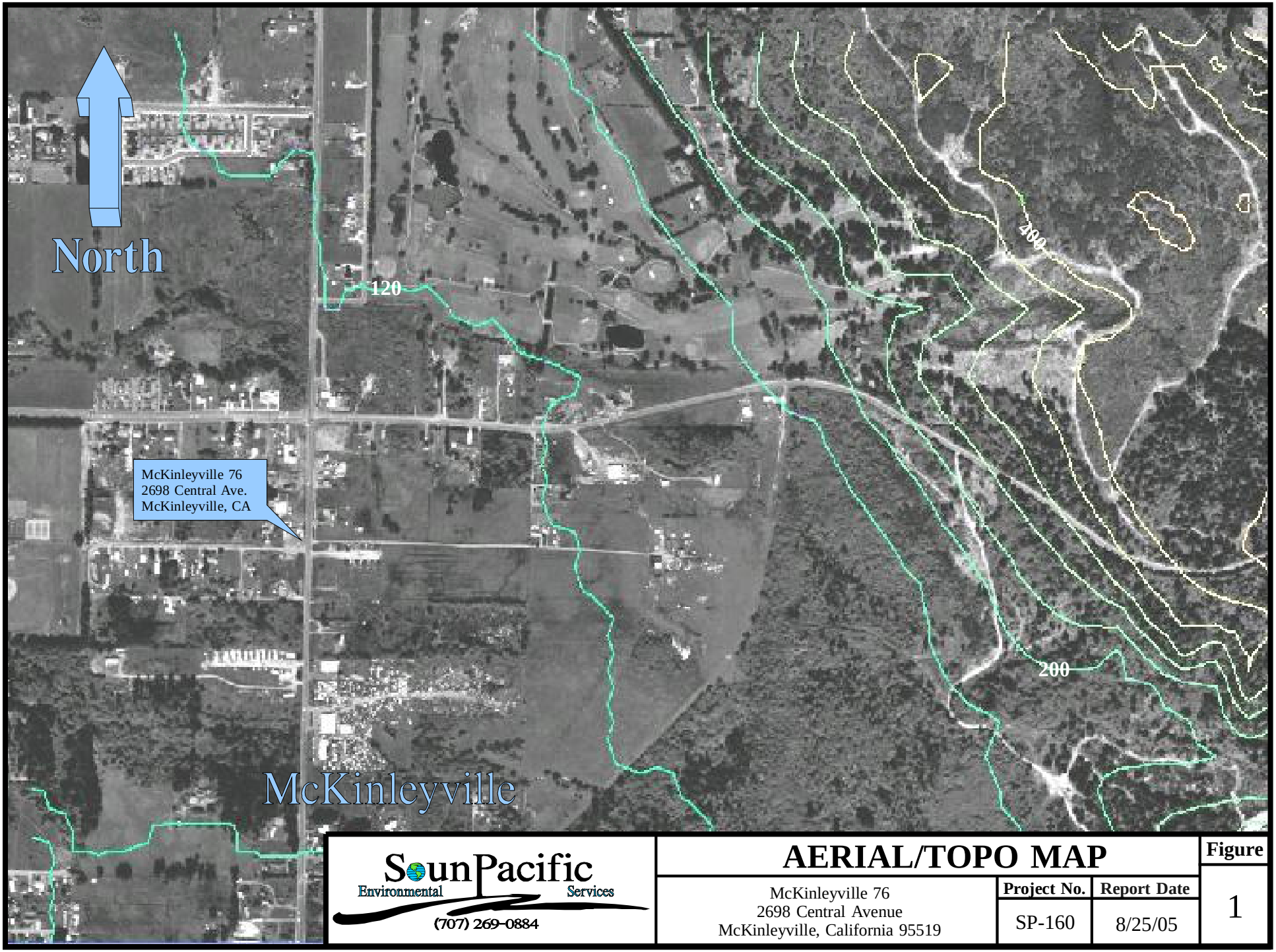
Chart 1

Hydrograph

McKinleyville 76
2698 Central Avenue
McKinleyville, California 95519



Figures

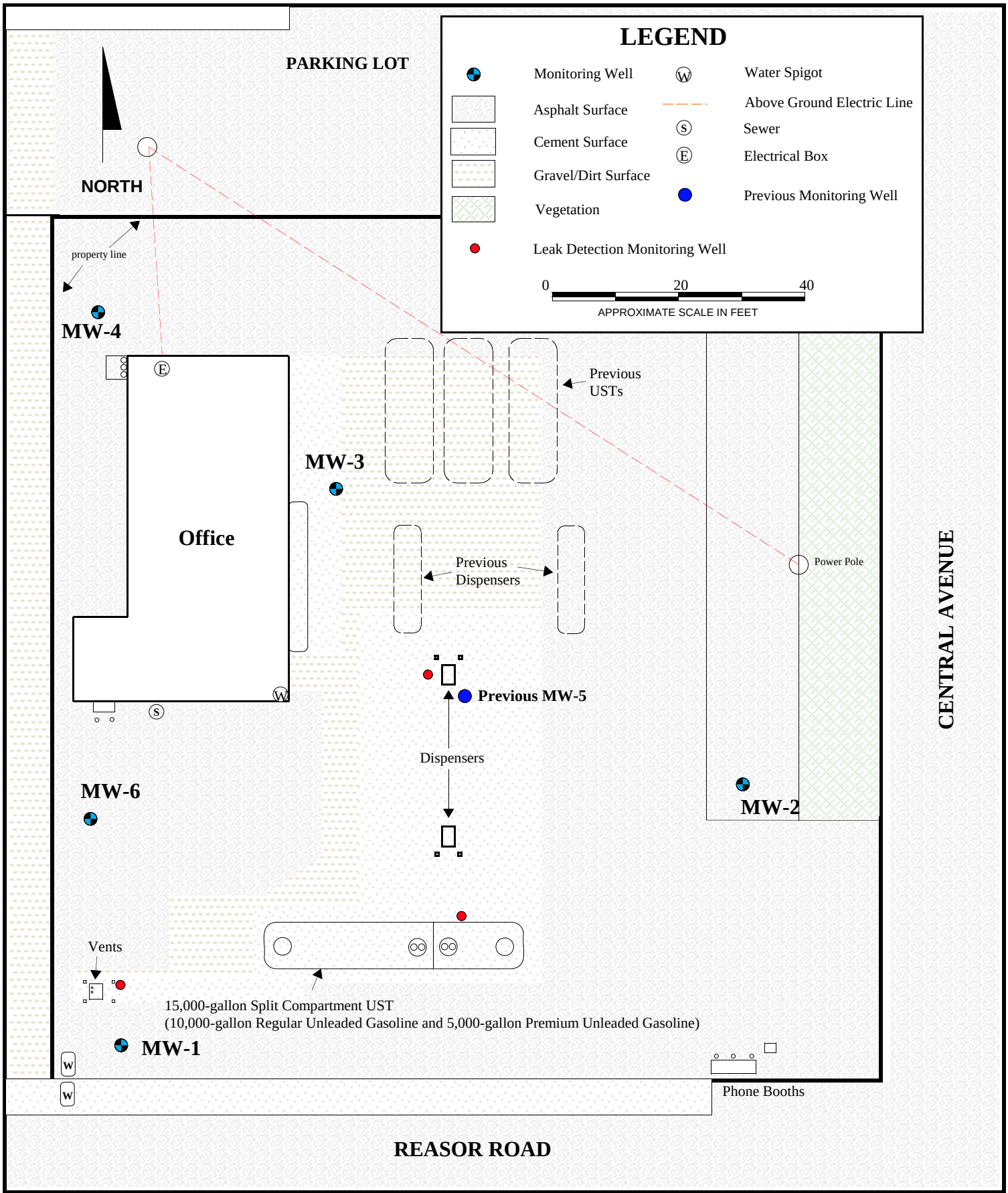


SunPacific Environmental Services
(707) 269-0884

AERIAL/TOPO MAP

McKinleyville 76
2698 Central Avenue
McKinleyville, California 95519

Project No.	Report Date	Figure
SP-160	8/25/05	1



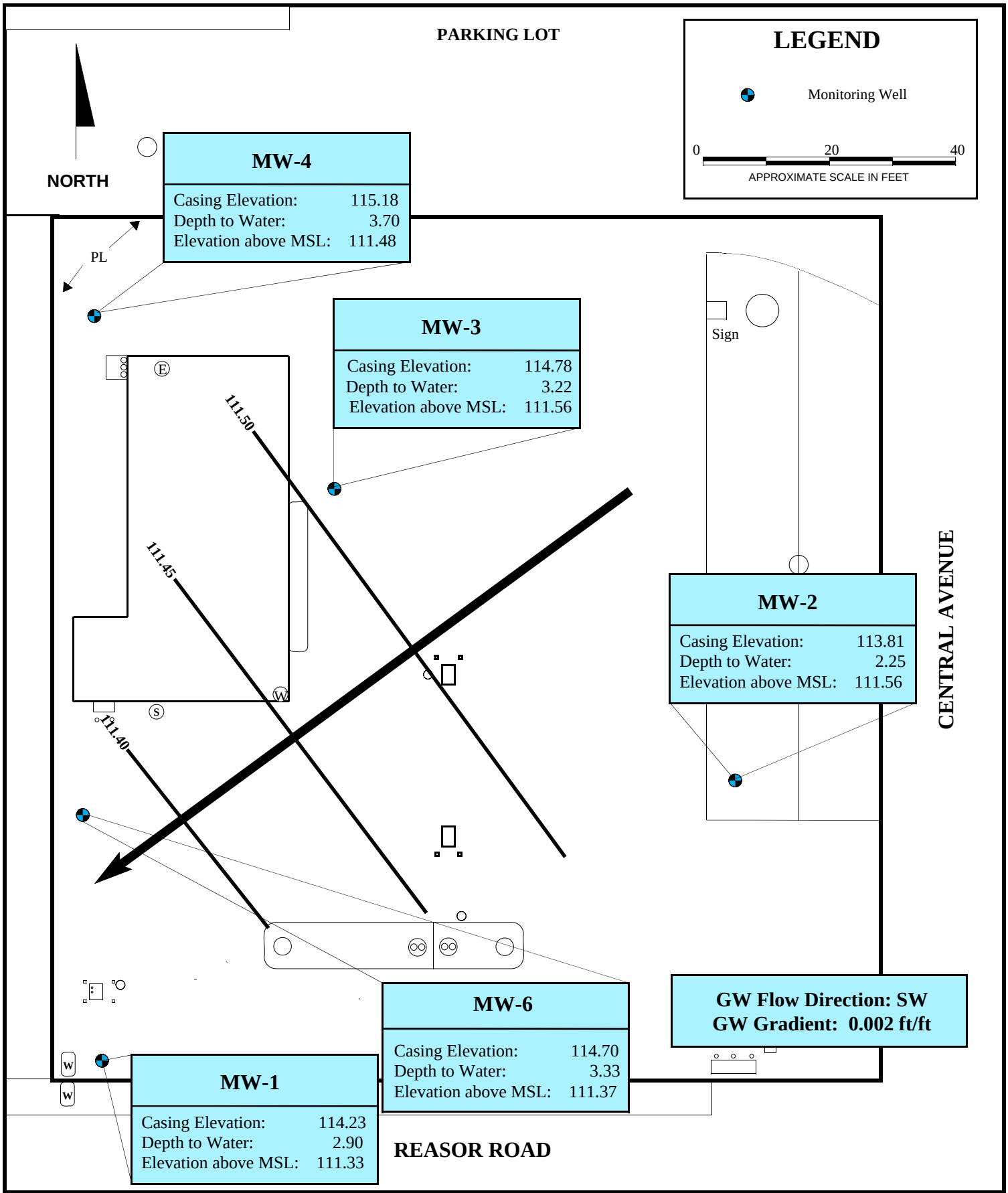
SITE PLAN

Figure 2

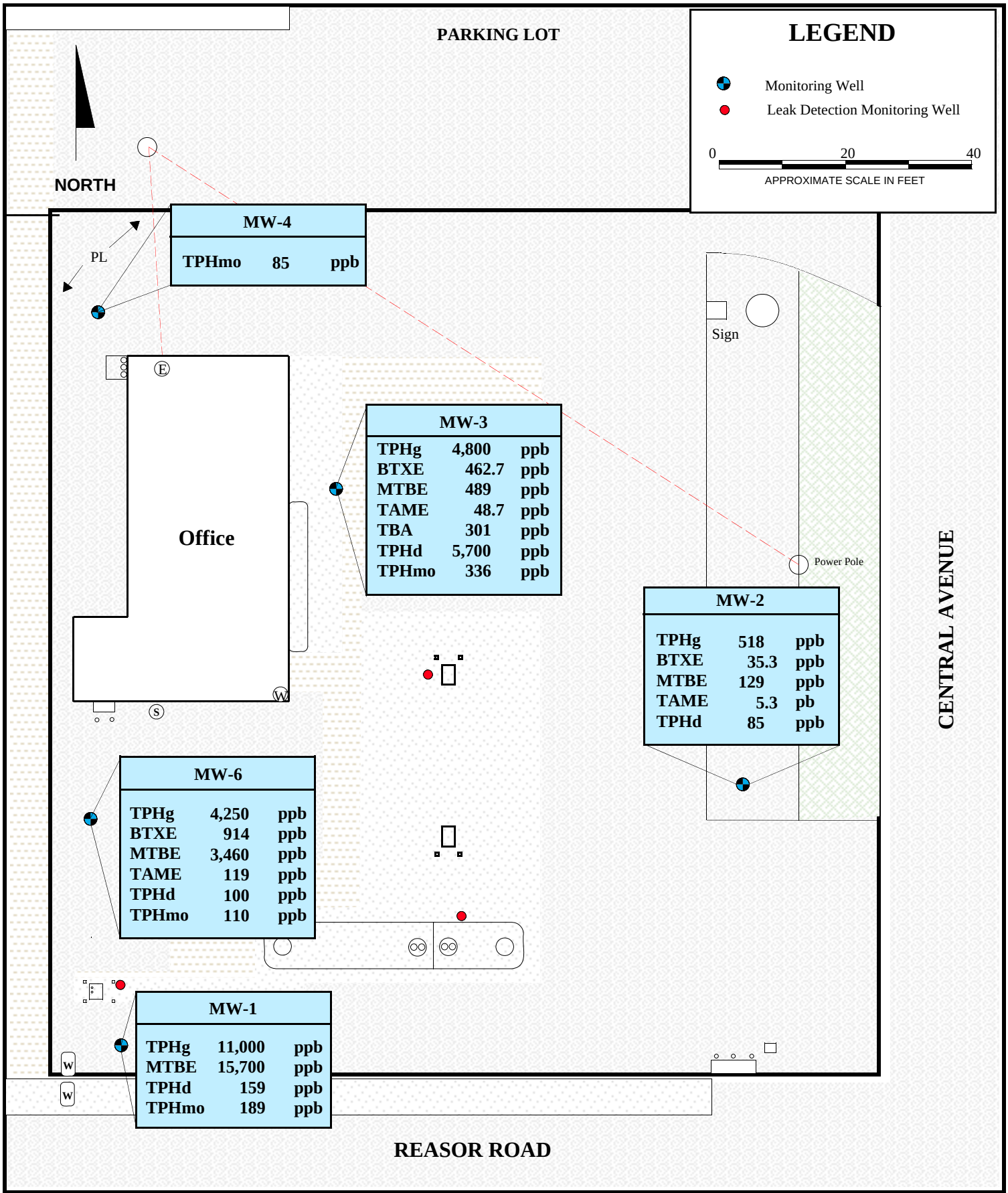
Environmental Services

McKinleyville 76
2698 Central Avenue
McKinleyville, California 95519

Project No.	Report Date
SP-160	8/25/05



Environmental Services	**GROUNDWATER LEVEL CONTOUR MAP JUNE 2005**	Figure 3
McKinleyville 76 2698 Central Avenue McKinleyville, California 95519	Project No. SP-160	Report Date 8/25/05



GROUNDWATER ANALYTICAL RESULTS

Figure 4

Environmental Services

McKinleyville 76 2698 Central Avenue McKinleyville, California 95519	Project No.	Report Date
	SP-160	8/25/05

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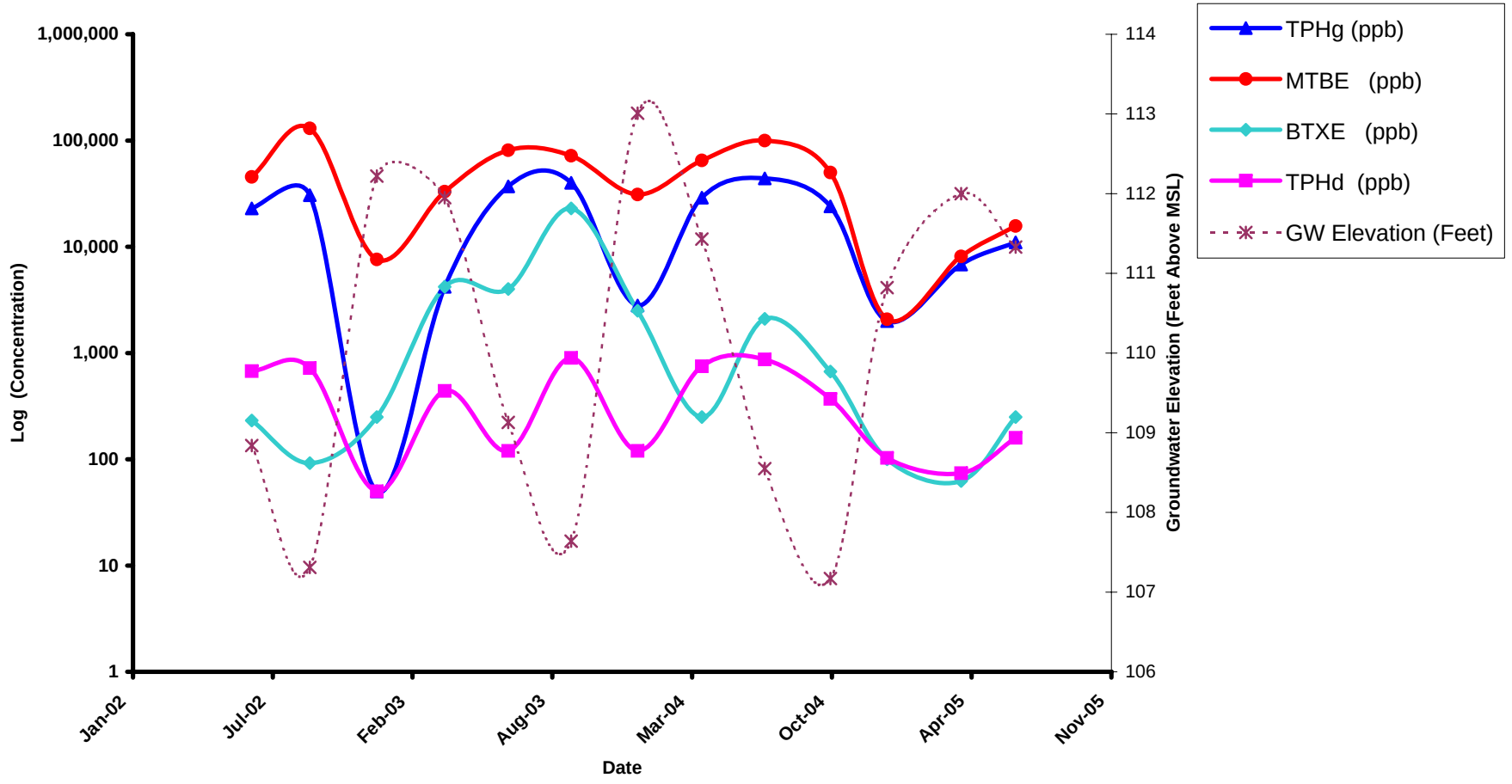
Environmental Services
(707) 269-0884

DOMESTIC WELL SAMPLE LOCATION MAP

McKinleyville 76
2698 Central Avenue
McKinleyville, California 95519

Project No.	Report Date	Figure
SP-160	8/25/05	5



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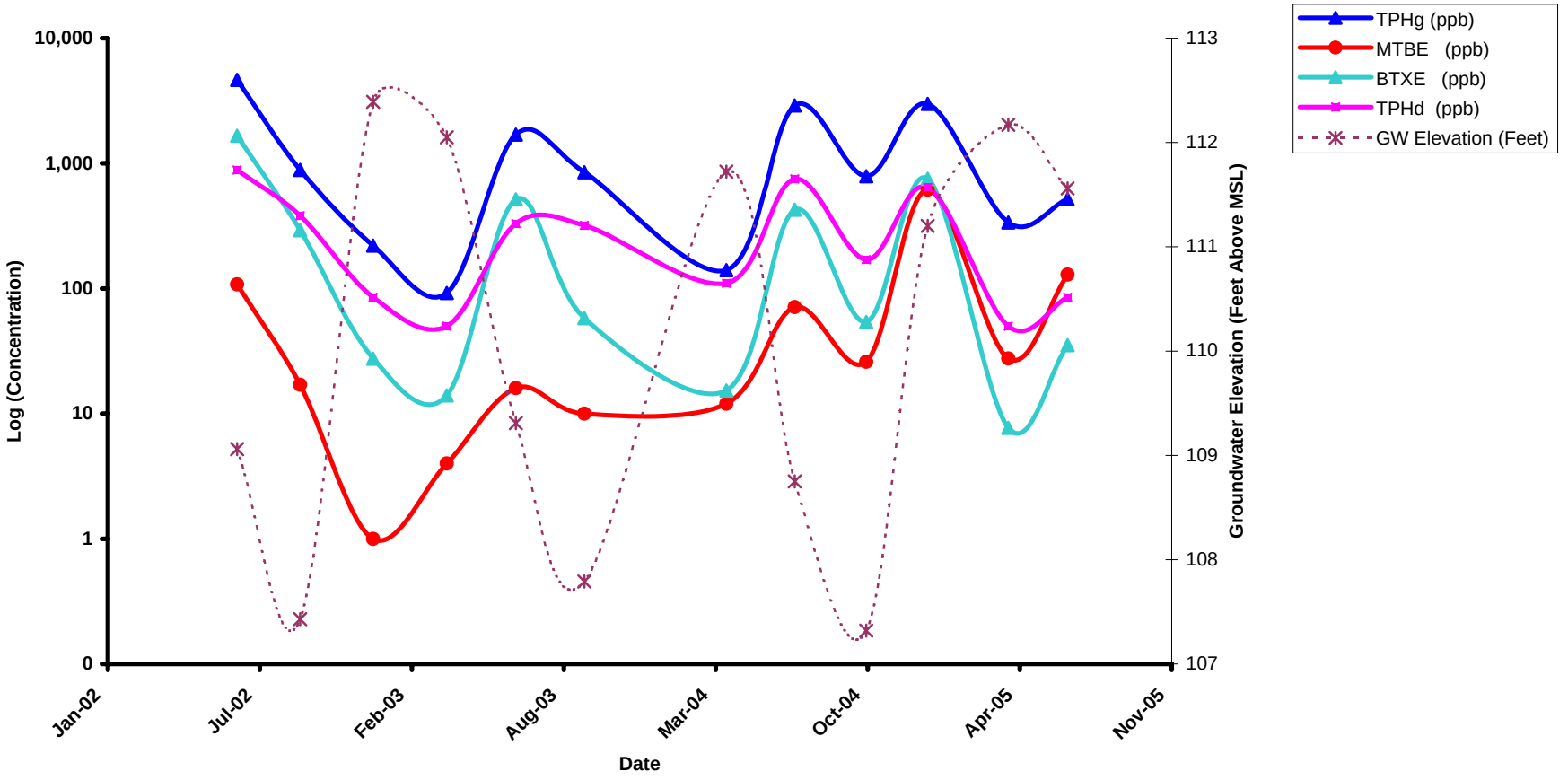
MW-1 HYDROCARBON CONCENTRATIONS VS. TIME

McKinleyville 76
2698 Central Avenue
McKinleyville, California 95519

Project No.	Date
SP-160	8/25/2005

Figure 6



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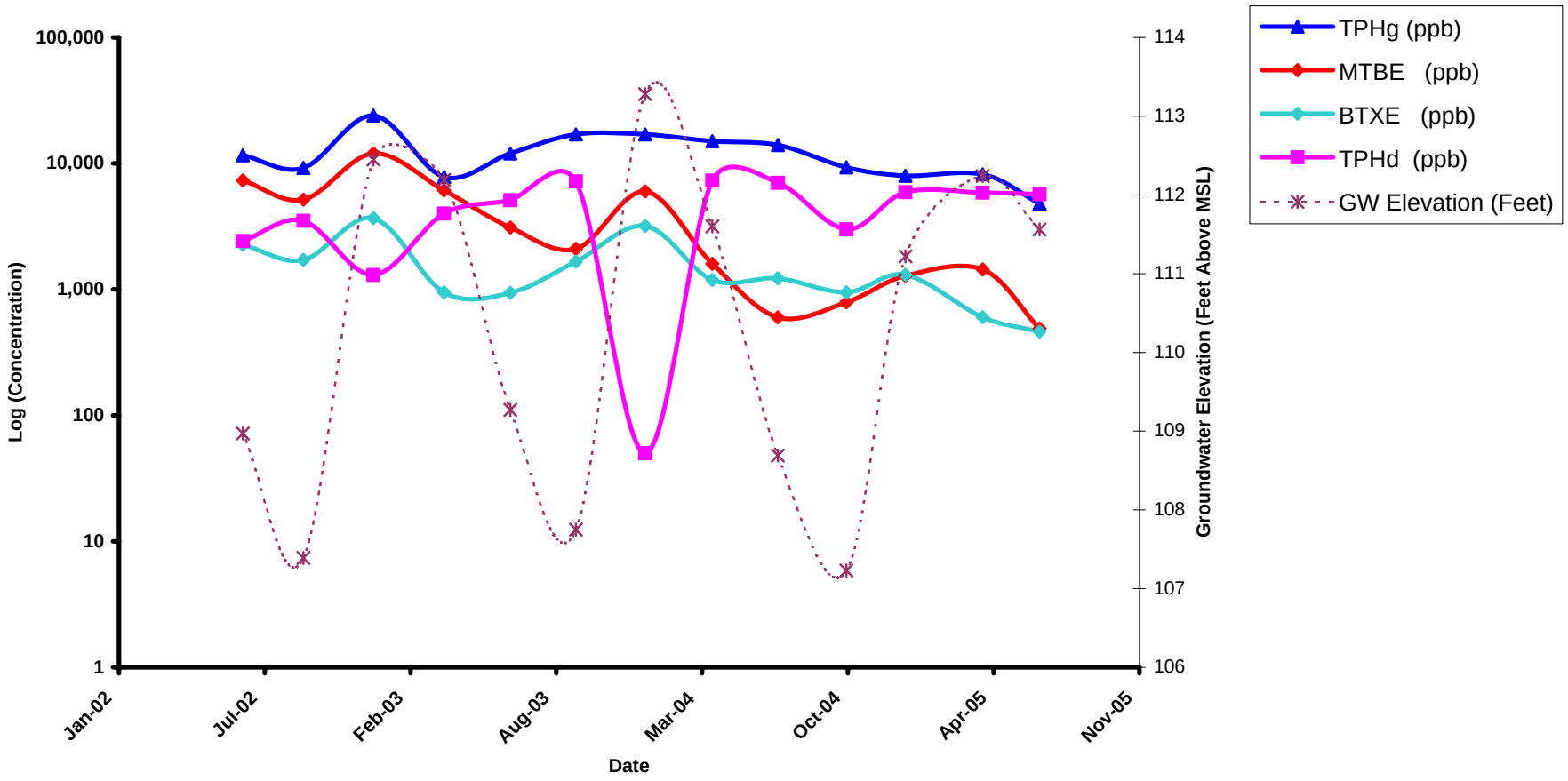
MW-2 HYDROCARBON CONCENTRATIONS VS. TIME

McKinleyville 76
2698 Central Avenue
McKinleyville, California 95519

Project No.	Date
SP-160	8/25/2005

Figure 7



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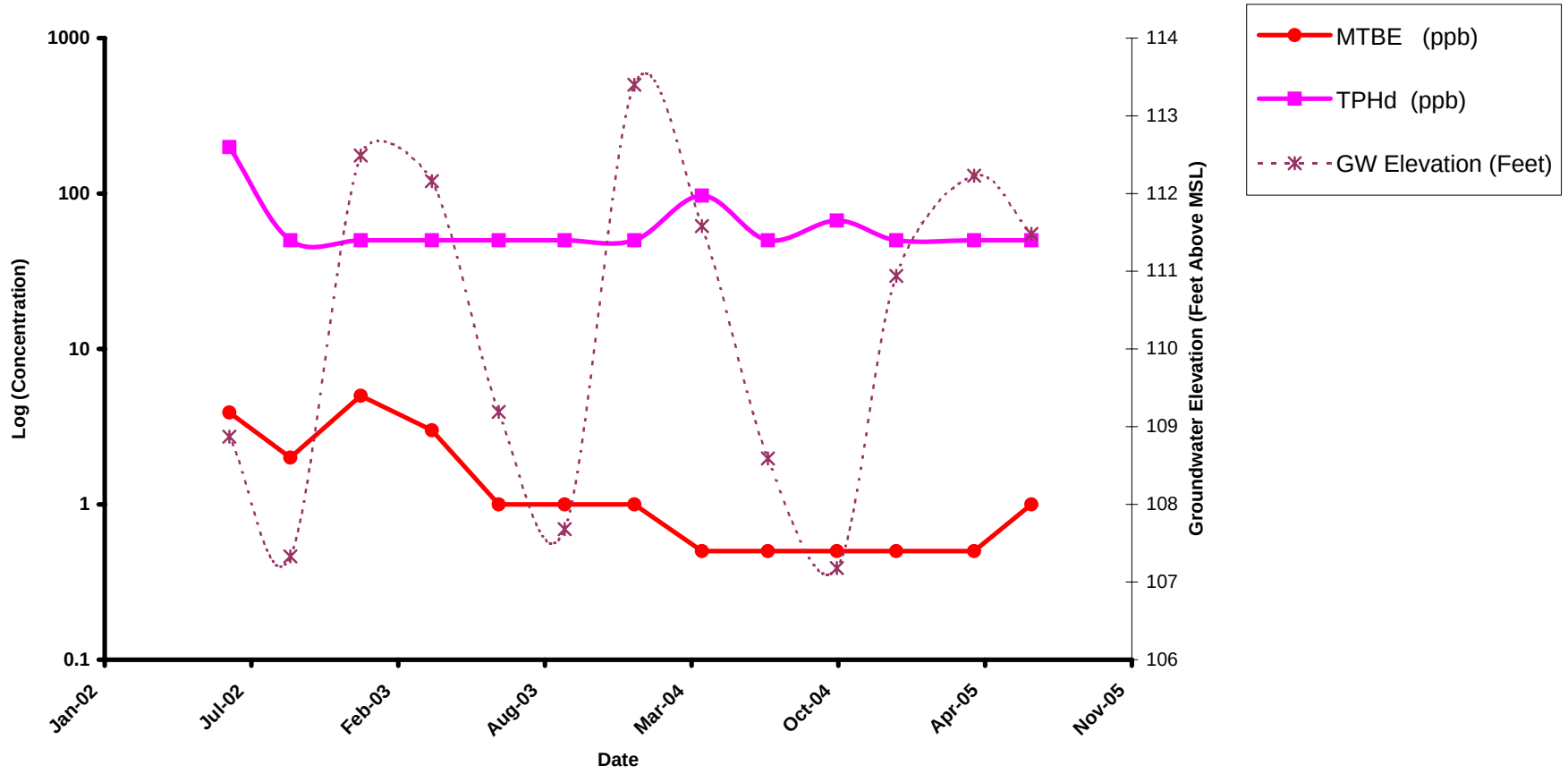
MW-3 HYDROCARBON CONCENTRATIONS VS. TIME

McKinleyville 76
2698 Central Avenue
McKinleyville, California 95519

Project No.	Date
SP-160	8/25/2005

Figure 8



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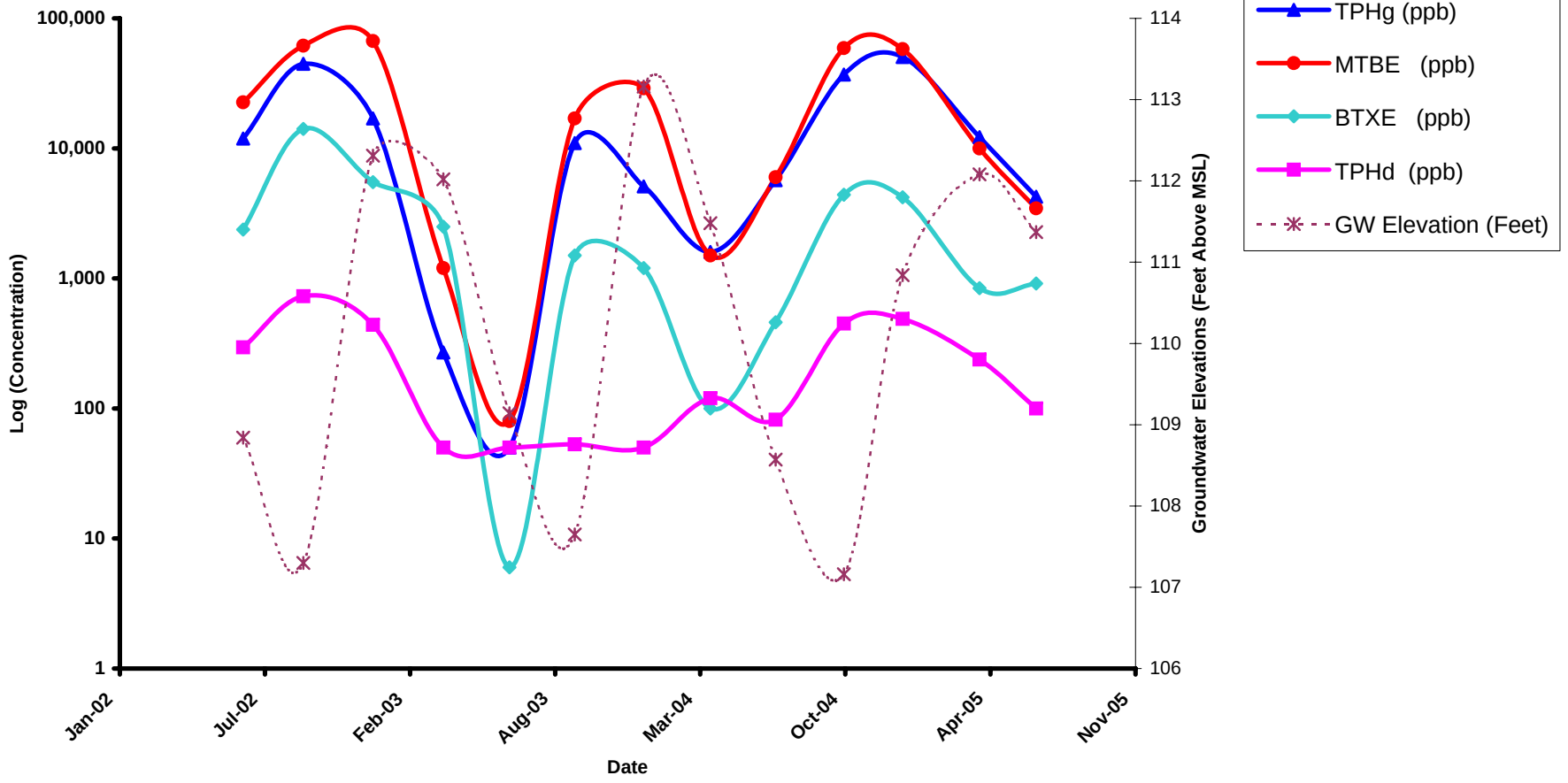
MW-4 HYDROCARBON CONCENTRATIONS VS. TIME

McKinleyville 76
2698 Central Avenue
McKinleyville, California 95519

Project No.	Date
SP-160	8/25/2005

Figure 9



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MW-6 HYDROCARBON CONCENTRATIONS VS. TIME

McKinleyville 76
2698 Central Avenue
McKinleyville, California 95519

Project No.	Date
SP-160	8/25/2005

Figure 10

Appendices

Appendix A

July 11, 2005

Lab ID: 5060827

Andy Malone
SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549
RE: MCK76 2698 CENTRAL AVE SP-160

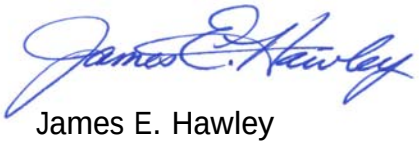
Dear Andy Malone,

Enclosed are the analysis results for Work Order number 5060827. All analysis were performed under strict adherence to our established Quality Assurance Plan. Any abnormalities are listed in the qualifier section of this report.

If you have any questions regarding these results, please feel free to contact us at any time. We appreciate the opportunity to service your environmental testing needs.

Sincerely,

For



James E. Hawley
Laboratory Director
California ELAP Certification Number 1677

Report To:	SOUNPACIFIC	**Lab No:**	5060827
	4612 GREENWOOD HEIGHTS DR	**Reported:**	07/11/05
	KNEELAND, CA 95549	**Phone:**	707-269-0884
Attention:	Andy Malone	**P.O. #**	
Project:	MCK76 2698 CENTRAL AVE SP-160		
Description:	MW-1 **Lab ID:** 5060827-01	**Sampled:**	06/22/05 00:00
Matrix:	Water	**Received:**	06/24/05 09:51

Volatile Organic Compounds

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
Gasoline	ug/l	**11000**	R-01		5000	EPA 8015/8260	06/24/05	06/24/05	B5F0544
Benzene	"	ND	R-01		50.0	"	"	"	"
Ethylbenzene	"	ND	R-01		50.0	"	"	"	"
Toluene	"	ND	R-01		50.0	"	"	"	"
Xylenes (total)	"	ND	R-01		100	"	"	"	"
Methyl tert-butyl ether	"	**15700**	R-01		500	"	06/24/05	"	"
Di-isopropyl ether	"	ND	R-01		50.0	"	06/24/05	"	"
Tert-amyl methyl ether	"	ND	R-01		50.0	"	"	"	"
Ethyl tert-butyl ether	"	ND	R-01		50.0	"	"	"	"
Tert-butyl alcohol	"	ND	R-01		5000	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*93.8 %*		*43-155*		*"*	*"*	*"*	*"*

TPH Diesel & Motor Oil

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
Diesel	ug/l	**159**	D-02		50	EPA 8015 MOD	07/01/05	06/28/05	B5F0602
Motor Oil	"	**189**			50	"	"	"	"
Surrogate: Octacosane		*98.5 %*		*50-150*		*"*	*"*	*"*	*"*

Approved By

Basic Laboratory, Inc.

California D.O.H.S. Cert #1677

Report To:	SOUNPACIFIC	**Lab No:**	5060827
	4612 GREENWOOD HEIGHTS DR	**Reported:**	07/11/05
	KNEELAND, CA 95549	**Phone:**	707-269-0884
Attention:	Andy Malone	**P.O. #**	
Project:	MCK76 2698 CENTRAL AVE SP-160		
Description:	MW-2 **Lab ID:** 5060827-02	**Sampled:**	06/22/05 00:00
Matrix:	Water	**Received:**	06/24/05 09:51

Volatile Organic Compounds

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
Gasoline	ug/l	**518**			50.0	EPA 8015/8260	06/24/05	06/24/05	B5F0544
Benzene	"	**32.8**			0.5	"	"	"	"
Ethylbenzene	"	ND			0.5	"	"	"	"
Toluene	"	**0.8**			0.5	"	"	"	"
Xylenes (total)	"	**1.7**			1.0	"	"	"	"
Methyl tert-butyl ether	"	**129**	R-01		5.0	"	06/29/05	"	"
Di-isopropyl ether	"	ND			0.5	"	06/24/05	"	"
Tert-amyl methyl ether	"	**5.3**			0.5	"	"	"	"
Ethyl tert-butyl ether	"	ND			0.5	"	"	"	"
Tert-butyl alcohol	"	ND			50.0	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*93.8 %*		*43-155*		*"*	*"*	*"*	*"*

TPH Diesel & Motor Oil

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
Diesel	ug/l	**85**	D-01, D-02		50	EPA 8015 MOD	07/01/05	06/28/05	B5F0602
Motor Oil	"	ND			50	"	"	"	"
Surrogate: Octacosane		*94.2 %*		*50-150*		*"*	*"*	*"*	*"*

Approved By

Basic Laboratory, Inc.

California D.O.H.S. Cert #1677

Report To:	SOUNPACIFIC	**Lab No:**	5060827
	4612 GREENWOOD HEIGHTS DR	**Reported:**	07/11/05
	KNEELAND, CA 95549	**Phone:**	707-269-0884
Attention:	Andy Malone	**P.O. #**	
Project:	MCK76 2698 CENTRAL AVE SP-160		
Description:	MW-3 **Lab ID:** 5060827-03	**Sampled:**	06/22/05 00:00
Matrix:	Water	**Received:**	06/24/05 09:51

Volatile Organic Compounds

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
Gasoline	ug/l	**4800**	R-01		250	EPA 8015/8260	06/24/05	06/24/05	B5F0544
Benzene	"	**280**	R-01		2.5	"	"	"	"
Ethylbenzene	"	**142**	R-01		2.5	"	"	"	"
Toluene	"	**25.1**	R-01		2.5	"	"	"	"
Xylenes (total)	"	**15.6**	R-01		5.0	"	"	"	"
Methyl tert-butyl ether	"	**489**	R-01		20.0	"	06/24/05	"	"
Di-isopropyl ether	"	ND	R-01		2.5	"	06/24/05	"	"
Tert-amyl methyl ether	"	**48.7**	R-01		2.5	"	"	"	"
Ethyl tert-butyl ether	"	ND	R-01		2.5	"	"	"	"
Tert-butyl alcohol	"	**301**	R-01		250	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*95.6 %*		*43-155*		*"*	*"*	*"*	*"*

TPH Diesel & Motor Oil

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
Diesel	ug/l	**5700**	D-01, D-02		100	EPA 8015 MOD	07/01/05	06/28/05	B5F0602
Motor Oil	"	**336**	D-10		100	"	"	"	"
Surrogate: Octacosane		*107 %*		*50-150*		*"*	*"*	*"*	*"*

Approved By

Basic Laboratory, Inc.

California D.O.H.S. Cert #1677

Report To:	SOUNPACIFIC	**Lab No:**	5060827
	4612 GREENWOOD HEIGHTS DR	**Reported:**	07/11/05
	KNEELAND, CA 95549	**Phone:**	707-269-0884
Attention:	Andy Malone	**P.O. #**	
Project:	MCK76 2698 CENTRAL AVE SP-160		
Description:	MW-4 **Lab ID:** 5060827-04	**Sampled:**	06/22/05 00:00
Matrix:	Water	**Received:**	06/24/05 09:51

Volatile Organic Compounds

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
Gasoline	ug/l	ND			50.0	EPA 8015/8260	06/24/05	06/24/05	B5F0544
Benzene	"	ND			0.5	"	"	"	"
Ethylbenzene	"	ND			0.5	"	"	"	"
Toluene	"	ND			0.5	"	"	"	"
Xylenes (total)	"	ND			1.0	"	"	"	"
Methyl tert-butyl ether	"	ND			1.0	"	"	"	"
Di-isopropyl ether	"	ND			0.5	"	"	"	"
Tert-amyl methyl ether	"	ND			0.5	"	"	"	"
Ethyl tert-butyl ether	"	ND			0.5	"	"	"	"
Tert-butyl alcohol	"	ND			50.0	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*89.6 %*		*43-155*		*"*	*"*	*"*	*"*

TPH Diesel & Motor Oil

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
Diesel	ug/l	ND			50	EPA 8015 MOD	07/01/05	06/28/05	B5F0602
Motor Oil	"	**85**			50	"	"	"	"
Surrogate: Octacosane		*106 %*		*50-150*		*"*	*"*	*"*	*"*

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Basic Laboratory, Inc.

California D.O.H.S. Cert #1677

Report To:	SOUNPACIFIC	**Lab No:**	5060827
	4612 GREENWOOD HEIGHTS DR	**Reported:**	07/11/05
	KNEELAND, CA 95549	**Phone:**	707-269-0884
Attention:	Andy Malone	**P.O. #**	
Project:	MCK76 2698 CENTRAL AVE SP-160		
Description:	MW-6 **Lab ID:** 5060827-05	**Sampled:**	06/22/05 00:00
Matrix:	Water	**Received:**	06/24/05 09:51

Volatile Organic Compounds

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
Gasoline	ug/l	**4250**	R-01		1000	EPA 8015/8260	06/24/05	06/24/05	B5F0544
Benzene	"	**914**	R-01		10.0	"	"	"	"
Ethylbenzene	"	ND	R-01		10.0	"	"	"	"
Toluene	"	ND	R-01		10.0	"	"	"	"
Xylenes (total)	"	ND	R-01		20.0	"	"	"	"
Methyl tert-butyl ether	"	**3460**	R-01		125	"	06/24/05	"	"
Di-isopropyl ether	"	ND	R-01		10.0	"	06/24/05	"	"
Tert-amyl methyl ether	"	**119**	R-01		10.0	"	"	"	"
Ethyl tert-butyl ether	"	ND	R-01		10.0	"	"	"	"
Tert-butyl alcohol	"	ND	R-01		1000	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*94.4 %*		*43-155*		*"*	*"*	*"*	*"*

TPH Diesel & Motor Oil

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
Diesel	ug/l	**100**	D-01, D-02		50	EPA 8015 MOD	07/01/05	06/28/05	B5F0602
Motor Oil	"	**110**			50	"	"	"	"
Surrogate: Octacosane		*104 %*		*50-150*		*"*	*"*	*"*	*"*

Approved By

Basic Laboratory, Inc.

California D.O.H.S. Cert #1677

Report To:	SOUNPACIFIC	**Lab No:**	5060827
	4612 GREENWOOD HEIGHTS DR	**Reported:**	07/11/05
	KNEELAND, CA 95549	**Phone:**	707-269-0884
Attention:	Andy Malone	**P.O. #**	
Project:	MCK76 2698 CENTRAL AVE SP-160		

Notes and Definitions

D-01	This sample appears to contain volatile range organics.
D-02	Hydrocarbon pattern present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel.
D-10	The heavy oil range organics present are due to hydrocarbons eluting primarily in the diesel range.
R-01	The Reporting Limit and Detection Limit for this analyte have been raised due to necessary sample dilution.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the detection limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
<	Less than reporting limit
≤	Less than or equal to reporting limit
>	Greater than reporting limit
≥	Greater than or equal to reporting limit
MDL	Method Detection Limit
RL/ML	Minimum Level of Quantitation
MCL/AL	Maxium Contaminant Level/Action Level
mg/kg	Results reported as wet weight
TTLC	Total Threshold Limit Concentration
STLC	Soluble Threshold Limit Concentration
TCLP	Toxicity Characteristic Leachate Procedure

Approved By

Basic Laboratory, Inc.

California D.O.H.S. Cert #1677

NORTH COAST LABORATORIES LTD.
5680 West End Road • Arcata • CA 95521-9202
707-822-4649 Fax 707-822-6831

Chain of Custody

P. ____ ____

LABORATORY NUMBER:

Attention: _____
Results & Invoice to: _____
Address: _____
_____
Phone: _____
Copies of Report to: _____
_____
Sampler (Sign & Print): _____

PROJECT INFORMATION

Project Number: _____
Project Name: MCK-76 Domestic Well
Purchase Order Number: _____

LAB ID	SAMPLE ID	DATE	TIME	MATRIX*	PRESERVATIVE	CONTAINER	ANALYSIS
	PW-1 MCK 76 1520 Murry	4-1-05		water			BTEX TPHg 5-Oxys TPHd/MO

RECEIVED 4/1/05

TAT: ☐ 24 Hr ☐ 48 Hr ☐ 5 Day ☐ 5–7 Day
☐ STD (2–3 Wk) ☐ Other: _____
PRIOR AUTHORIZATION IS REQUIRED FOR RUSHES

REPORTING REQUIREMENTS: State Forms ☐
Preliminary: FAX ☐ Verbal ☐ By: __/__/__
Final Report: FAX ☐ Verbal ☐ By: __/__/__

CONTAINER CODES: 1—½ gal. pl; 2—250 ml pl; 3—500 ml pl; 4—1 L Nalgene; 5—250 ml BG; 6—500 ml BG; 7—1 L BG; 8—1 L cg; 9—40 ml VOA; 10—125 ml VOA; 11—4 oz glass jar; 12—8 oz glass jar; 13—brass tube; 14—other

PRESERVATIVE CODES: a—HNO_3; b—HCl; c—H_2SO_4; d—$Na_2S_2O_3$; e—NaOH; f—$C_2H_3O_2Cl$; g—other

SAMPLE CONDITION/SPECIAL INSTRUCTIONS

Domestic Well Samples
1520 Murry MCK 76

RELINQUISHED BY (Sign & Print)	DATE/TIME	RECEIVED BY (Sign)	DATE/TIME

SAMPLE DISPOSAL
☐ NCL Disposal of Non-Contaminated
☐ Return ☐ Pickup

CHAIN OF CUSTODY SEALS Y/N/NA ____
SHIPPED VIA: UPS Air-Ex Fed-Ex Bus Hand

***MATRIX:** DW=Drinking Water; Eff=Effluent; Inf=Influent; SW=Surface Water; GW=Ground Water; S=Soil; O=Other.

ALL CONTAMINATED NON-AQUEOUS SAMPLES WILL BE RETURNED TO CLIENT

Appendix B

SounPacific
Environmental Services
(707) 269-0884

Standard Operating Procedures

Groundwater Level Measurements and Free Phase Hydrocarbon Measurements

All SounPacific staff and contractors shall adopt the following procedures any time that groundwater elevations are determined for the purposes of establishing groundwater gradient and direction, and prior to any sampling event.

Wells are to be tested for free phase hydrocarbons (free product) before the first development or sampling of any new well, and in any well that has historically contained free product.

Equipment Checklist

- ❑ Combination water level / free phase hydrocarbon indicator probe (probe)
- ❑ Gauging Data / Purge Calculations Sheet
- ❑ Pencil or Pen/sharpie
- ❑ Disposable Gloves
- ❑ Distilled Water and or know water source on site that is clean
- ❑ Alconox (powder) or Liquinox (liquid) non-phosphate cleaners—do not use soap!
- ❑ Buckets or Tubs for decontamination station
- ❑ Tools necessary to access wells
- ❑ Site Safety Plan
- ❑ This Standard Operating Procedure
- ❑ Notify Job site business that you will be arriving to conduct work.

Procedure

1. Review Site Safety Plan and utilize personal protection appropriate for the contaminants that may be encountered.

2. Access and open all monitoring wells to be measured. Allow wells to equilibrate for approximately 15 minutes before taking any measurements.

3. Decontaminate probe with Alconox or Liquinox solution, and rinse with distilled water.

4. Determine the diameter of the well to be measured and indicate this on the Gauging Data / Purge Calculations Sheet.

5. Words of caution: Please be careful with water level and product meters probes are not attached with high strength material so please make sure to avoid catching the end on anything in the well and make sure not to wind reel to the point that it could pull on the probe. ***If product is suspect in a well, go to step 6, if no product is suspected go to step 7 below.***

6. **When product is present or suspected:** use the product level meter. Clip the static charge clamp to the side of the well casing. Then lower probe into the well through the product/water interface about one foot if possible. Then slowly raise the probe back up through the product/water interface layer and record the level as the tone changes from solid to broken-record this level in the Gauging Data / Purge Calculations Sheet to the nearest 0.01 foot (DTP). Continue to raise the probe up through the product until the tone stops completely-record this level on the Gauging Data / Purge Calculations Sheet to the nearest 0.01 foot (DTW). Then go to step 8.

7. **When no product is present or suspected:** If no free product is present, record the depth of the water (to the nearest 0.01 foot) relative to the painted black mark on the top of the well casing. Leave the probe in the well just a hair above the water level to ensure the well as equilibrated. As the well rises, the tone will sound. Make sure no increase in water levels have occurred in over a ten-minute period. Water levels can lower as well as rise. Make sure you note when the level you keep lowering the probe to has remained stable for at least ten minutes. Once this has been accomplished, please record this level in the Gauging Data / Purge Calculations Sheet to the nearest 0.01 foot (DTW).

8. Turn off the probe, and use the probe to determine the depth to the bottom of the well relative to the top of the well casing. This is the depth to bottom measurement (DTB).

9. Decontaminate probe and tape by washing in an Alconox/Liquinox solution ***(read directions on solution for ratio of water to cleanser)*** and use the toothbrush provided to remove any foreign substance from the probe and tape. Then triple rinse probe and tape with clean water and then proceed to take measurements in the next well.

10. If sampling is to occur, proceed to implement SounPacific's Standard Operating Procedure for Monitoring Well Purging and Sampling. If no sampling is to be performed, close and secure all wells and caps.

SounPacific
Environmental Services
(707) 269-0884

Standard Operating Procedures

Monitoring Well Purging and Groundwater Sampling

All SounPacific employees and contractors shall adopt the following procedures any time that groundwater samples are to be taken from an existing groundwater monitoring well.

Prior to the implementation of these procedures, the groundwater level **MUST** be measured and the presence of free phase hydrocarbons determined in accordance with SounPacific's Standard Operating Procedures for Groundwater Level Measurements and Free Phase Hydrocarbon Measurements.

Equipment Checklist

- ❑ **Gauging Data / Purge Calculations Sheet used for water level determination**
- ❑ Chain of Custody Form
- ❑ pH/ Conductivity / Temperature meter
- ❑ Pencil or Pen
- ❑ Indelible Marker
- ❑ Calculator
- ❑ Disposable Gloves
- ❑ Distilled Water
- ❑ Alconox/liquinox liquid or powdered non-phosphate cleaner
- ❑ Buckets or Tubs for decontamination station
- ❑ Bottom-filling bailer or pumping device for purging
- ❑ Disposable bottom-filling bailer and emptying device for sampling
- ❑ String, twine or fishing line for bailers
- ❑ Sample containers appropriate for intended analytical method (check with lab)
- ❑ Sample labels
- ❑ Site Safety Plan
- ❑ Tools necessary to access wells
- ❑ Drum space on site adequate for sampling event

Procedure

1. Review Site Safety Plan and utilize personal protection appropriate for the contaminants that may be encountered.

2. Measure groundwater levels and check for the presence of free product in accordance with the Standard Operating Procedures for Groundwater Level Measurements and Free Phase Hydrocarbon Measurements.

Purging

3. Calculate and record the volume of standing water in each well using the information provided on the Gauging Data / Purge Calculations sheet.
   (DTB-DTW) x Conversion Factor = Casing Volume.

4. The purge volume shall be at least three times and no more than seven times the volume of standing water (the casing volume).

5. Purge the well by bailing or pumping water from the well into a calibrated receptacle, such as a five gallon bucket or tub with markings to indicate one gallon increments. Collect purgeate in a 55 gallon labeled drum and store on site. Drum labels should include the date, contents, site number, and SounPacific's name and telephone number.

6. Take measurements of pH, conductivity, temperature, and visual observations to verify the stabilization of these parameters. At least five measurements of these parameters should be made throughout the purging process. The parameters shall be considered stabilized if successive measurements vary by less than 0.25 pH units, 10% of conductivity in μS, and 1°C (or 1.8°F). Continue purging until at least three times the casing volume has been removed, and the measured parameters have stabilized as indicated above. Do not exceed seven casing volumes.

7. Take a final depth to groundwater measurement and calculate the casing volume of the recharged well. Ideally, the casing volume should have recharged to at least 80% of the original measured casing volume before sampling commences. If due to slow recharge rates it is not feasible to wait for the well to fully recharge, then note this on the Gauging Data / Purge Calculation Sheet and proceed to sample following the procedure below.

Sampling

8. **After completing groundwater measurement, and checking for free product if necessary, in accordance with SounPacific's Standard Operating Procedures for Groundwater Level Measurements and Free Phase Hydrocarbon Measurements, and after purging monitoring wells as described above, groundwater samples may be collected.**

9. Slowly lower a clean, previously unused disposable bailer into the well water approximately half of the bailer length, and allow the bailer to slowly fill.

10. Withdraw the full bailer from the monitoring well and utilize the included (clean and unused) bottom-emptying device to fill the necessary sample containers, and seal the container with the included PTFE (Teflon) lined cap.

11. When filling VOAs, fill the VOA completely full, with the meniscus rising above the rim of the bottle. Carefully cap the VOA and invert it and gently tap it to determine whether air bubbles are trapped inside. If the VOA contains air bubbles, refill the VOA and repeat this step.

12. All samples shall be labeled with the Sample ID, the Sample Date, and the Sample Location or Project Number. Use an indelible marker for writing on sample labels.

13. Record all pertinent sample data on the Chain of Custody.

14. Place samples in an ice chest cooled to 4°C with ice or "blue ice". Bottles should be wrapped in bubble wrap, and VOA's should be inserted in a foam VOA holder to protect against breakage. Samples are to be kept at 4°C until delivered to the laboratory. Any transference of sample custody shall be indicated on the Chain of Custody with the appropriate signatures as necessary.

15. Utilize clean, previously unused gloves, bailer and line, and bottom-emptying device for each well sampled.

16. When finished with all sampling, close and secure all monitoring wells.

17. Leave the site cleaner than when you arrived and drive safely.

Appendix C

GAUGING DATA/PURGE CALCULATIONS

SounPacific Environmental Services
(707) 269-0884

Job Site: McK 76

Job No.: SP-160

Event: "12th Quarterly" (2nd 2005)

Date: 6/22/05

WELL NO.	DIA. (in.)	DTB (ft.)	DTW (ft.)	ST (ft.)	CV (gal.)	PV (gal.)	SPL (ft.)	Bailer Loads	Notes
MW-1	2	12.51	2.90	9.61	1.54	4.62	–		No odor
MW-2	2	13.05	2.25	10.80	1.73	5.19	–		odor
MW-3	2	11.21	3.22	7.99	1.28	3.84	–		odor
MW-4	2	12.20	3.70	8.5	1.36	4.08	–		odor (faint)
MW-6	2	12.20	3.33	8.87	1.42	4.26	–		No odor

Explanation:
DIA. = Well Diameter
DTB = Depth to Bottom
DTW = Depth to Water
ST = Saturated Thickness (DTB-DTW)
CV = Casing Volume (ST x cf)
PV = Purge Volume (standard 3 x CV, well development 10 x CV)
SPL = Thickness of Separate Phase Liquid

Conversion Factors (cf):
2 in. dia. well cf = 0.16 gal./ft.
4 in. dia. well cf = 0.65 gal./ft.
6 in. dia. well cf = 1.44 gal./ft.

Sampler: Jeff Gaines

6/22/05

SounPacific
Environmental Services
(707) 269-0884

Well Gauging/Sampling Report

Sheet 1 of 5

Date: 6/22/05 Project Name: McKinleyville 76 Project No: SP-160 Well Number: MW-1

Analyses Tested: BTEX, 5-oxys, TPHg, TPH d/mo

Sample Containers: (3) HCl VOA's, (2) 1-L Amber bottles

Purge Technique: [X] Bailer [ ] Pump

Sounder Used: [ ] Water Meter [X] Interface Meter

Water & Free Product Levels

Time	Depth to Water	Depth to Product	Notes
10:25	2.90		No sheen
10:36	2.90		↓
	End		

Field Measurements

Time	Total Vol Removed/(gal)	pH	Temp (F)	Cond./(ms/cm)	DO/(mg/L)	DO/(%)	
10:57	0	7.00	65.71	.531	1.33	14.3	
11:00	1.54	6.97	61.91	.480	.93	9.5	
11:03	3.08	6.92	61.96	.496	.74	7.6	
11:08	4.62	6.90	62.25	.518	.65	6.7	

Field Scientist: Jeff Gaines

SounPacific
Environmental Services
(707) 269-0884

Well Gauging/Sampling Report

Sheet 2 of 5

Date 6-22-05 Project Name Mck 76 Project No. SP-160 Well Number MW-2

Analyses Tested BTEX, 5-Oxy's, TPHg, TPH d/mo

Sample Containers (3) HCl VOA's, (2) 1-L Amber bottles

Purge Technique ☒ Bailer ☐ Pump

Sounder Used ☐ Water Meter ☒ Interface Meter

Water & Free Product Levels

Time	Depth to Water	Depth to Product	Notes
10:20	2.25		No sheen
10:39	2.25		↓
	End		

Field Measurements

Time	Total Vol Removed(gal)	pH	Temp(F)	Cond.(ms/cm)	DO(mg/L)	DO(%)	
11:19	0	7.39	66.55	.211	.44	4.7	
11:27	1.73	7.20	61.05	.182	.38	3.8	
11:32	3.46	7.11	60.80	.166	.34	3.4	
11:36	5.19	7.07	61.02	.174	.34	3.4	

Field Scientist: Jeff Gaines

SounPacific Environmental Services
(707) 269-0884

Well Gauging/Sampling Report

Sheet 3 of 5

Date: 6/22/05 Project Name: Mck 76 Project No: SP-160 Well Number: MW-3

Analyses Tested: BTEX, 5 oxy's, TPHg, TPH d/mo

Sample Containers: (3) HCl VOA's, (2) 1-L Amber bottles

Purge Technique: ☒ Bailer ☐ Pump

Sounder Used: ☐ Water Meter ☒ Interface Meter

Water & Free Product Levels

Time	Depth to Water	Depth to Product	Notes
10:28	3.22		Sheen detected
10:42	3.22		↓
	End		

Field Measurements

Time	Total Vol Removed/(gal)	pH	Temp/(F)	Cond./(ms/cm)	DO/(mg/L)	DO/(%)	
11:48	0	6.82	63.12	.534	.27		
11:52	1.28	6.81	61.39	.524	.30		
11:57	2.56	6.81	61.09	.524	.32		
12:01	3.84	6.82	61.09	.526	.33		

Field Scientist: Jeff Gaines

SounPacific
Environmental Services
(707) 269-0884

Well Gauging/Sampling Report

Sheet 4 of 5

Date: 6/22/05 Project Name: McK 76 Project No: SP-160 Well Number: MW-4

Analyses Tested: BTEX, 5-Oxy's, TPHg, TPH d/mo

Sample Containers: (3) HCl VOA's, (2) 1-L Amber bottles

Purge Technique: ☒ Bailer ☐ Pump

Sounder Used: ☐ Water Meter ☒ Interface Meter

Water & Free Product Levels

Time	Depth to Water	Depth to Product	Notes:
10:30	3.70		Sheen detected
10:46	3.70		↓
	End		

Field Measurements

Time	Total Vol. Removed/(gal)	pH	Temp/(F)	Cond./(ms/cm)	DO/(mg/L)	DO/(%)	
12:17	0	6.65	62.99	.165	1.01	10.5	
12:28	1.36	6.41	58.79	.183	.73	7.2	
12:32	2.72	6.33	58.75	.185	.67	6.6	
12:37	4.08	6.27	58.90	.187	.63	6.2	

Field Scientist: Jeff Gaines

SunPacific
Environmental Services
(707) 269-0884

Well Gauging/Sampling Report

Sheet 5 of 5

Date: 6/22/05 Project Name: Mck. 76 Project No: SP-1160 Well Number: MW-6

Analyses Tested: BTEX, 5 oxy's, TPHg, TPH d/mo

Sample Containers: (3) HCl VOA's, (2) 1-L Amber bottles

Purge Technique: ☒ Bailer ☐ Pump

Sounder Used: ☐ Water Meter ☒ Interface Meter

Water & Free Product Levels

Time	Depth to Water	Depth to Product	Notes:
10:34	3.33		No sheen
10:50	3.33		Sheen detected
	End		

Field Measurements

Time	Total Vol. Removed/(gal)	pH	Temp/(F)	Cond./(ms/cm)	DO/(mg/L)	DO/(%)	
12:51	0	6.22	63.41	.176	.35	3.7	
12:55	1.42	6.38	60.45	.255	.27	2.7	
1101	2.84	6.40	60.68	.317	.27	2.7	
1:06	4.26	6.41	60.08	.433	.28	2.8	

Field Scientist: Jeff Cramer